THE FARMERS' CABINET,
AND

AMERICAN HERD-BOOK.

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—Liebig.

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For the Farmers' Cabinet.

Sheep, Mountain Lands, &c., in Virginia.

I RESIDE in Amherst county, about twelve miles east of the Blue Ridge, and here, as through the county generally, the foddering of sheep, as well as all other stock, begins about the 1st of December and ends about the 15th of April—that is, from the time the annual grasses and weeds are unfit for food, until the budding of trees. On the mountains, the foddering season may be counted from 1st of December till the 5th or 10th of May; but it is remarkable that on the mountains, cattle, hogs and sheep, require less food given them than in less elevated situations. This I can account for in no other way, than by estimating the superior capacity of the mountain soil for producing a heavy sod of grass, weed roots, and fungi on rocks and logs; all of which are nutritious food. Small flocks of sheep, and some colts, and yearling cattle, were some years past wintered on the mountains of Amherst, exclusively on the growing rye; but now the rye crop is nearly abandoned, and foddering is required.

Some fifteen or eighteen years past I kept a small flock of 30 or 40 sheep, which were never fed through the year, yet kept in healthy condition. They fed on dry grass, pine leaves, and twigs of shrubbery, on poor and unenclosed grounds; but certainly a large flock must either be foddered during winter, or given extensive pasturage on grass or rye. Rye, when sown on our mountains in August, will by 1st of December make a heavy sod, and afford food for stock throughout winter, and then yield a good harvest. It will grow through all the months except January and February, and indeed in open weather, somewhat in these. The difference in duration of winter between the northern and southern portions of Virginia, I would estimate at thirty days. Spring, about the centre of Amherst, and at my residence, is perhaps fifteen days later than on the eastern shore, and ten days earlier than on the Blue Ridge. I have just had a conversation with an old man, and we agree that our snows during the year will average about six; in the general two to four inches deep—very seldom eight inches; lying generally one day, and seldom more than two or three days. On the mountains the snows will number say eight or nine, from three to six inches deep, seldom twelve inches, and lying from one to six days.

Two farmers from Washington county, Pennsylvania, have lately been here for the

purpose of examining the mountains of Amherst, and are so well pleased that they have determined to bring hither a flock of 900 superior sheep in the spring.

Unimproved mountains are worth in Amherst from 25 cents to $1, and at the latter price, that can be had, which when cleared or tilled, will spontaneously cast up green sward and white clover in superior order. The Cold Mountain, the Tear Jacket Mountain, and the Rocky Mountain, are superior for grazing sheep, to any other lands I have ever seen. These all lie in the county of Amherst, and are one continuous ridge, without any ugly breakers, and all very rich. But few trees and bushes are found here, and wherever the sun can get fairly at the land, the green sward and clover have possession. The broom is a great pest on our arable lands, but on the mountains no broom is to be seen, except where poor and slaty; and here it is not the broom proper, nor a pest, but a sedge; which grows scattering and yields some food.

There are but few flocks of sheep in this county, mine being the largest, say 400; and unfortunately they have the rot amongst them, introduced by a flock of 90, which I purchased in the county of Rockbridge. This is the only case of rot I have seen for many years, and trust I shall never see it again. I know of no remedy for rot except high feeding, but from experience will say for certainty, that oil poured into the nostrils of a sheep will expel the worms therefrom; and that spirituous liquor will destroy the poisonous effect of ivy and laurel, and I believe any other poison on the stomach of a sheep—and why not of any other animal?

I am always ready, and take delight in casting in my mite for the advancement of the cause of agriculture, but hope no stranger will write to me a private letter on the subject of agriculture. Indeed I am persuaded very few would thus write me, if they understood my qualifications and works.

Za. Drummond.

Feb. 22nd, 1847.

From the American Farmer.

Potatoe Disease.

To the Editor of the American Farmer:

Dear Sir,—So much has already been said upon the subject of the rot or disease in potatoes, that there seems neither room nor occasion for saying any more on the subject, nor do I intend to venture a word as tending to start or suggest a new hypothesis—holding, as I do, to my old theory, that to atmospheric influence alone is to be ascribed the cause of the disease, and repeating my advice to farmers, to discard all nostrums, and to plant in such soils and with such manures, as from time immemorial had been found best adapted to the culture of the potatoe. For until we have a return of the ordinary and genial weather of our autumns, we are not likely to be favoured with crops of sound potatoes.

It may be admitted, however, that the deleterious effects of the atmosphere might, in some degree, be shunned or modified; for instance, early planting of early sorts, might by ripening, and being gathered in all August, escape; as also, deep planting on light soils—the soils best adapted to the potatoe—by rendering the tubers more impervious to the excessive heat and humidity, that otherwise would the more readily reach them if nearer the surface, and proportionally affect them. But I am totally opposed to adventitious and concentrated manures. The barn-yard manure, long litter from the stables, and plenty of it, the world over, is the manure for a good crop of potatoes. It is the manure I have always used, and who in my region can compare with me for raising fine potatoes? Sometimes, it is true, I have used gypsum, sprinkled on the manure, raked in, over the sets, in the furrow—but why did I this? Not certainly to weaken or dissipate the manure, but to protract its efficacy, keeping as long as possible a continuity of its strength throughout the formation, and pending the whole time of the growing of the potatoes. By this means you could trace distinctly the blackened manure, in lime, on the surface of the ground, as turned up by the plough, on taking out the crops; this was so obvious and striking in 1842, that when I had seeded the same land that fall with wheat, a gentleman remarked, that the manure I had used was uncommonly well rotted to have harrowed in so finely. He was not a little surprised when told it was rotted in growing the potatoes, which had just been taken from the same ground. That season I had over four hundred bushels of fine Mercer potatoes to the acre, and the next season fifty bushels of white wheat to the acre, without any additional manure. If an abundance of unfermented stable manure be a cause, a prevailing cause of rot, why was not this crop rotted, and why have not the crops, so manured for a century, been diseased?

I have been led to these remarks, from reading an article in your last number on the potatoe disease, from the pen of my spirited and intelligent friend, W. W. W. Bowie, Esq., than whom, a more ardent and chivalric champion can nowhere be found on the field of agriculture. But if

not a *better*, I may claim to be an *older* soldier than he; and as Brutus slew his best friend for the good of Rome, I may be permitted a tilt with my noble friend for the good of the *tillers of the soil*, without being considered at all *Brutish*. Indeed there are certain reasons why I should feel pugnacious when any one presumes to teach the way of growing the "Murphies," except he comes from the sod. The late gifted and lamented Nicholas Biddle, the able and distinguished President of the Philadelphia Agricultural Society, used to say, that it was presumptuous in any man in our Society to compete with me in raising potatoes. Alas, this badinage awakens now, other thoughts and associations—my poor country—her wit, her humour, her irrepressible fortitude and constancy are being at this moment severely tried, under a calamitous dispensation of Providence! She has through ages borne much from other hands: may she struggle through this dispensation as becomes her, and rise from the chastening, wiser, purer and better! But I must not indulge thus, else I shall forget the task I have undertaken.

In the article referred to, much consideration is given to a change and renewal of seeds. Well, to the efforts of producing other sorts, and seeding with them, instead of those long in use, there can be no objection; new varieties will be produced, and much good may result from such experiments in the main: but I apprehend that seedlings will be found as liable to the rot as the oldest sorts: experience strengthens me in this opinion, for last season I had seedlings diseased, while the "Lady Fingers," a white kidney variety, which have been grown as an early potatoe some forty years on the farm I now hold, escaped entirely; nor has it been diseased any season of the prevailing rot.

Potatoes that are starved by not allowing them sufficient manure to grow to full size, may in some degree escape the disease, as there would be little of them to kill; same as poor wheat, with small heads and skeleton straw, may escape blight or rust, while a well grown, succulent crop, promising 40 to 50 bushels to the acre, may be badly blighted—but it would be bad husbandry to work for only 10 bushels of wheat to the acre, or some 40 to 50 bushels of potatoes to the acre, through the fear of blight and rot. It is impossible to have a good crop of potatoes without an abundant supply of manure. I have seen them planted in rich ground and well manured, but never knew them rotted in consequence; the only injurious result was, that they were not quite so mealy or so fine in flavor as they otherwise would have been, had soil and manure been better proportioned to the wants and quality of the potatoe. I recollect a tremendous yield raised on an old sheep walk—they were sound, but rather ill-tasted, somewhat bitter, and were fed to the cattle, but they were as sound, so far as rot or disease was concerned, as any potatoes I ever saw. Heavy manuring on rich land, is an ill-judged practice, but light manuring or no manuring at all, on poor lands, is still worse.

The mixture prescribed by my esteemed friend could not do much harm, provided there be first "*quantum sufficit*," of good manure, but if he will permit me to to revise the prescription, I think I can render it somewhat more admissible;—first, I would reject the lime, or if used, let it be sprinkled on the surface after the planting is finished—the gypsum or plaster to be used in the furrow instead of the lime. If the salt is to be used, leave out the saltpetre—leave out soot and increase the quantity of charcoal. Thus, one bushel of ground gypsum, one of salt, one of ashes, two of fine charcoal—the soot and lime may be strewn any time on the surface previous to the first harrowing of the potatoes, after they are up. The mixture, as above, may be used to every acre, strewed by hand, evenly, after the manure has been raked in or shook over the potatoe sets;—the drill, to be covered—but I protest against the dose unless there be a sufficiency of manure to support the potatoe in growing.

My potatoes were not affected by the disease, except in 1843, and that I think was owing to their not having been covered sufficiently deep at planting. The last season I had a fine crop of sound Mercer potatoes, over one thousand bushels, while my neighbours around me had hardly on an average more than the seed,—they still, despite all entreaty and example, plant shallow and use the plough instead of the cultivator or hoe harrow, ridging them up on either side in a bank, exposing them the more to the action of the sun and atmosphere.

Since 1843 I have been particular in my observations as to the condition of the potatoe fields and patches around me, and have uniformly found, that on hills with a southern exposure, and where the covering was light and shallow, the disease prevailed most. Why was this?—because the tubers from their exposure and superficial covering were instantly affected by the extreme heat—sultry or humid heat, which in general provoked them to an incipient state of vegetating, hence the derangement of their tissues and partial decomposition.

Last season in taking out a patch of potatoes from an orchard on the college grounds adjoining me, it was discovered that under the shade of the trees the potatoes were sound, while those in the spaces, in open ground, were considerably affected by the rot. The disease therefore is owing to the influence of the atmosphere—heat with great humidity, unnatural spring-like weather that sets everything to growing and blossoming; affects also the potatoes to begin to grow, as if they were planted for that purpose; hence we can easily imagine that when this action is produced, the stalks or vines that were still vigorous and adhered to them, would immediately lose their hold on the roots below, and die.

When I recommend deep planting on light dry soils, I mean only as deep as would be safe to go—say six inches. Every body is aware that they could be planted so deep as never to come up, and that potatoes planted deep in wet stiff soils will rot in all seasons.

I have thus, through a deep and abiding regard for the interests of the farmer, been led to question the soundness of your respectable correspondent's views upon the disease and culture of the potatoe. He is too generous, I know, to ascribe to me any motive but the right one, and I am as free to acknowledge his disinterestedness and zeal in the same common cause.

Respectfully, your obedient servant,

JAMES GOWEN.

Mount Airy, Philad., Feb. 15th, 1847.

Anecdote of the Horse.

ATTACHMENT TO MAN.

In submission and attachment to man, the horse is equalled only by the dog and elephant. He soon learns to distinguish his master's voice, and to come at his call; he rejoices in his presence, and seems restless and unhappy during his absence; he joins with him willingly in any work, and appears susceptible of emulation and rivalry; and though frequently fierce and dangerous to strangers, yet there are few instances on record of his being faithless to those with whom he is domesticated, unless under the most inhuman and barbarous treatment. Colonel Smith relates the following affecting incident of attachment in a charger, which belonged to the late General Sir Robert Gillespie. When Sir Robert fell at the storming of Kalunga, his favourite black charger, bred at the Cape of Good Hope, and carried by him to India, was, at the sale of his effects, competed for by several officers of his division, and finally knocked down to the privates of the eighth dragoons, who contributed their prize money to the amount of £500 sterling, to retain this commemoration of their late commander. Thus the charger was always led at the head of the regiment on a march, and at the station of Cawnpore, was usually indulged with taking his ancient post at the colour-stand, where the salute of passing squadrons was given at drill and on reviews. When the regiment was ordered home, the funds of the privates running low, he was bought for the same sum by a relative of ours, who provided funds and a paddock for him, where he might end his days in comfort; but when the corps had marched, and the sound of the trumpet had departed, he refused to eat, and on the first opportunity, being led out to exercise, he broke from his groom, and galloping to his ancient station on the parade, after neighing alond, dropped down and died.—*Home Magazine.*

American Institute—Farmers' Club—Gardens.

March 2nd, 1847.

Judge Livingston in the chair.

Chairman—The subject for the day is the Kitchen Garden.

Mr. Meigs—I have been a gardener by choice for a great many years, in connexion with my professional employments. As to the general plan of a garden, I am pleased with the idea given by Chancellor Livingston many years ago to our old Agricultural Society. He said that on the north of the garden should be placed the tallest trees, and then all other trees, shrubs and plants in succession towards the south side of it, as they diminished in height down to the creeping plants, such as the strawberry. So that looking on the garden, the tops of all the plants would be rising gradually one above the other, like the benches of an amphitheatre from the south to the north, where the tall trees would break the northern blasts. One thing I recommend in a garden. Let the paths be turnpiked and raised to at least the level of the tops of the beds—in order that in damp or wet weather one can walk over them comfortably—and that in showers, the water may settle on the beds rather than form, as it does in our sunken garden paths, so many muddy ditches. And it will be found, that every square yard of every garden has its appropriate fitness for one plant more than another. I used to supply my neighbours with very superior celery plants, by planting the seed in a bed partially shaded by trees. Shade is requisite as well as the sun's rays—some plants need

more of one than the other. The French agriculturists say, that in common seasons the clouds furnish the necessary shade for most plants—but they recommend the proper use of spread cloths to shade some plants at proper times. Mr. Watson, late from England, tells me of his mode of setting out cabbage plants, which was new to me. He sets out the plants whenever it is convenient, dry or wet time—and after they are set, he puts boards along both sides of the rows of plants within an inch or two of the plants. The effect of which covering of the soil, is to cause the plants to thrive in a singular manner, and also to do another vast service to the gardeners, by preventing the growth of weeds. The ground should be dug two spades deep—and in drought, the oftener the ground is hoed or stirred the safer the plants, however dry the surface of the soil may be. All farmers and gardeners, living as they do most at home, without opportunities of comparing their work with others, are extremely apt to think that they know all about it, but occasionally when they chance to see another man's garden far superior to their own, they feel a mortification, which however is seldom owned.

Mr. Pike—I claim to be an exception to that rule, for with all my investigation and pains, I find that when I want the best vegetables, I must go to our markets for them. For instance, I tried to raise horse radish, but that in the markets goes entirely beyond mine.

John Lodge of Morrisania—I have been a working gardener more than thirty years. When one wants to begin making a garden, he must first examine his soil deeply, and see that it is of the right stuff. He should lay out his garden at right angles. His paths must be high instead of being ditches, and he must trench the whole garden from two and a half to four feet in depth, according to the character of the soil. If it requires draining, that must be done. I can trench from two to three square rods in a day; the effect is like that produced by the subsoil plough. This deep tillage gives room for the tender fibrous roots of plants to go deep and draw moisture and nutritition. Why, sir! the onion will send down its little fibrous roots from two to three feet deep. No tree should be in a kitchen garden, nor any flowers, they must be separated a considerable distance from each other. I have worked on 126 acres in England, where all the ground was dug with the spade, and when my spades, which at first are eleven inches long, have worn off from three-quarters to an inch, I throw them aside. When the garden has been trenched as deep as I have stated, the work is done for seven to fifteen or even twenty years, and in it every plant will have the proper chance to thrive. I don't throw all the subsoil upon the surface in this trenching. Paths are useful in separating plants from each other as well as for convenience to the gardener. Shade is necessary for many plants. Our sun here is often too hot for them, gooseberries especially flourish in shade—strawberries ought to be set in deep dug ground. Deep digging has the effect of enabling the soil to retain moisture, instead of being dried up.

Mr. Pike—But it won't do to drain our soil so much, we have too much dry weather for that. Paths an inch or three inches below the surface of the land are good; I have them so in my nursery.

Ironius Smith of Astoria—I can tell our friend Mr. Pike how he can raise fine horse radish; it is generally stuck away in some corner or scattered about the garden. I dig trenches two feet deep, fill them half full of good manure of cows, pigs, &c. I then fork up the bottom of the trench so as to mix soil and manure, then fill in the trench with good soil, then make holes at suitable distances, deep, and put in the roots. They grow as long as my cane, tapering downwards like a carrot, one solid root. A few trenders only are necessary; when I want horse radish, I cut off below the surface, leaving the late root, which grows again, so that they will for a long while continue a fine supply every year.

Mr. Lodge—After the summer is over, always dig up the garden well, and leave it so, for the benefit of the winter snows and rains.

Judge Van Wyck—We reasonably expect from any garden or farm on a small scale, a great production. Before we commence a garden, we ought to know what the soil is to a considerable depth; whether it contains the four primitive earths—lime, sand, clay, and magnesia in proper proportions; then if all is right, work and manure it well; for roots it should be trenched deep. Plants then find their nourishment, grow finely, are tender, and are always sought in our markets. The morning sun is of peculiar importance to plants. It is said that one hour of it in the morning is worth two in the afternoon, and we should avail ourselves of a knowledge of our climate so as to manage plants properly; we here generally have too much of the heat of the sun—it is far different in the moist climate of England.

Mr. Wakeman—The greatest produce of plants is best tested in gardens. Mr. Lodge says he has paid in England $250 a year rent per acre for a garden, and has produced

from the acre $1200 worth of vegetables a year. If we understood agriculture, population could be greatly increased and sustained better than now. Mr. Bergen of Gowanus, has sold the raspberries raised on an acre of his farm, for fifteen hundred dollars in a year. In New Jersey, ten thousand cabbages are raised on an acre; which, at four cents a piece, a reasonable price, amounts to four hundred dollars; and they often sell for more at Ironius Smith's place in Astoria; on two and a half acres there are raised vegetables abundant for thirteen in family. From his two cows 5527 quarts of milk a year, worth four cents a quart, are obtained. From twenty-two hens, he had in a year 2870 eggs. He has five hogs, and employs but one man in all this work. At this rate of cultivation, if it existed in Ireland, there would be no starving there. I see that Kane in his Irish Statistics, a work esteemed by the rulers of England, states the county of Armagh, which is almost one-seventh lakes, to be so well cultivated, that the people are not only well fed and clothed, but export large amounts, and that if all Ireland was as well cultivated as Armagh, it could support two and a half times as many people as it now does, and that under high cultivation of which it is capable, it could support thirty-five millions of people.

Mr. Lodge—That is undoubtedly true of high culture. I have seen such culture in England, and such cultivation too turns out good and able men, capable of taking charge of the finest estates of the nobility.

Mr. Hyde—How many different crops can be had in a year?

Mr. Lodge—Four; radishes, peas, bush beans, and cucumbers.—*Farmer and Mechanic.*

For the Farmers' Cabinet.

Vinegar.

I was interested in reading an article in the last No. of the Cabinet on vinegar making, by Prof. L. D. Gale. We are there told, that in the western States, where a good article is rarely found, it is often made of diluted whiskey, mixed with sour beer and other fermenting liquors. In Texas, by sour or green grapes and the washings of whiskey barrels. In England the vinegar is made either from the distillation of wood, or from the fermentation of malted liquors—that English vinegar generally contains sulphuric acid—that this is allowed by government to the amount of *two* to *five* per cent. The Professor further states, "that as this prevents the formation of mother, which is a vegetable substance, he presumes this object must constitute the basis of the permission." In this county and other parts of the State where apples generally abound, the vinegar is chiefly made from cider, and that an article of the very best quality for *table* use, can be obtained from this liquor without the addition of a particle of sulphuric, tartaric, or any other acid, or drug, the writer of this can from experience attest. This vinegar, it is true, may not possess the requisite strength for use in white lead works; indeed I have never known it so strong as in the least to eat up or destroy the pickles it was intended to preserve—to eat holes in the table cloth, or to exhibit other similar tests of great strength, which it is said some of the vinegar in the market will do. But although this cider vinegar may be comparatively weak, and incapable of souring a *good* disposition, still to make it in the natural way, is a work of time—as the Editor justly observes, "it is not made in one day, nor in a hundred." But when once a farmer has a cask of *good* vinegar, he *may* make it in *one* day—that is, he may draw out of this cask every day if he will, a small portion of vinegar, and return the same quantity in cider, without any perceptible deterioration. And it is better as a general rule, not to add more cider than you have of vinegar in the cask you are about to replenish, and in a few months it will acquire its natural strength. As regards the substance generally termed "mother," the better the vinegar the smaller will be the proportion of *mother* in the cask. And although in the natural process *mother* is always formed before the cider is converted into good vinegar, yet it will be found more freely to abound in a weak description of cider than in that which is stronger. It would seem that cider undergoes several changes before it is converted into good vinegar, and during one of these changes it is very apt to find its way *out* of the cask. Indeed this is often the case from the giving way of the hoops, which are generally too light, and are soon destroyed by the rust—paint affording but little protection. Vinegar, it may be remarked, will generally rack off clear and transparent, even from casks that may contain a portion of *mother*, and if it be a genuine article, it can scarcely be doubted but that it will remain so, even if it should find its way across the Atlantic. Be that as it may, I should be very unwilling to get rid of it by the addition of *five* or even *two* per cent of sulphuric acid. In the "Farmers' Encyclopedia," if I mistake not,—the work not being at hand to refer to—it is stated, one part in every 1000 of the free sulphuric acid is in England allowed to

be used in the vinegar—a proportion exceedingly small compared with the other, but which if correct, might not do a great deal of harm. In making sometimes fifty barrels or more a year of cider, and that chiefly for vinegar, my reliance has mainly been on the oxygen of the air, as the acidifying principle, and I have found that by frequently racking it off, and changing it from one cask to another, and taking care not to have the casks too full, the work has been accelerated. A cask half full of cider will go to vinegar in about half the time that it would, were it entirely full. After all, it will perhaps be said it is a slow way. It is slow—but this slow way of getting along, is what farmers are accustomed to; their teams often move slow—their corn frequently grows slow—they make their money slow, and they sell their vinegar slow. But cannot a farmer put this sulphuric acid to some legitimate use? Let him try its efficacy in dissolving bones, a quantity of which can be found on every farm, and often present an unsightly appearance. If it will answer that purpose, as no doubt it will, various experiments can be tried with the preparation, and the results made known for the benefit of others. This would be serving a good cause,—need not be attended with any great expense, and possibly might lead to some valuable discovery. R.

Salem county.

Soap as a Manure.—T. Dalton, a silk dyer, says in the London Agricultural Gazette, that he uses 15 cwt. of soap weekly, to discharge the oily matter from the silk, and forming of itself a kind of soap, the whole of which yields from four to six thousand gallons of strong soap suds per week. This he has lately applied to his farm, and "its effects are most extraordinary." It has been used only one season, and its results cannot be accurately given, but he considers it more powerful than any other manure.—*Southern Planter.*

Many barrels of strong soap suds are annually thrown into the gutter, and run to waste from every farmer's laundry. Could not these be poured on the manure heap, or otherwise saved to increase his "bank," and thus help to obviate the necessity of purchasing foreign manures?—Ed.

Keeping Farm Accounts.—Let any farmer make the experiment, and he will find it as interesting as it is useful, and both interesting and useful, to know from year to year the actual produce of his farm. Let everything, therefore, which can be measured and weighed, be measured and weighed; and let that which cannot be brought to an exact standard, be estimated as if he himself were about to sell or purchase it. Let him likewise, as near as possible, measure the ground which he plants, the quantity of seed which he uses, and the manure which he applies. The labour of doing this is nothing compared with the satisfaction of having done it, and the benefits which must arise from it. Conjecture, in these cases, is perfectly wild and uncertain, varying often with different individuals, almost a hundred per cent. Exactness enables a man to form conclusions, which may most essentially, and in innumerable ways, avail to his advantage. It is that alone which can give any value to his experience. It is that which will make his experience the sure basis of improvement; it will put it in his power to give safe counsel to his friends, and it is the only ground on which he can securely place confidence himself.—*Norristown Herald.*

Sweet Potatoes.—It is pleasing to hear the praises of anything we love, and it is therefore peculiarly gratifying to find a long commendation of the sweet potatoe in the New Orleans Tropic. From it we learn, that beds high and dry should be ready for the plantings, and the fields deeply ploughed for the coming crop. A new, loose soil, is decidedly best for the sweet potatoe, and it should be thrown up in high ridges, only when the plants are ready for setting out; when made long before planting, the ground becomes close and hard, which prevents the vine from growing kindly. There is no better substitute for bread, and none more healthy; all children are particularly fond of them, and when used by them freely, in the latter part of summer and fall, they never have what is called the "summer complaint." An acre of ground has been known to yield twelve hundred bushels; and in the South, with fair cultivation, from three to four hundred bushels may be produced beyond a doubt. There are many varieties, but the very best is called the Yam, in the south-west; in Carolina it is known as the "Pumpkin Spanish." There is now no difficulty in keeping the sweet potatoe perfectly sound all the year, and the market is always good. To prepare them for the table they should be nicely washed and baked in an oven—never, never boiled. All animals eat them, raw or cooked, with great avidity, and cows give more milk when fed with them, than with the same weight of any other food. It is indeed a most valuable crop for planters.—*Exchange paper.*

Woman's Cares at Home.

We have repeatedly met with the following remarks in our exchange papers, but cannot tell where they originally appeared. We trust our male readers will not cast them aside with barely the inquiry, what they have to do with *Agriculture* or *Rural Economy?* Many a wife may think there is quite as much truth as poetry in them.—Ed.

My heart always "stirs within me" when I read selections made by editors of newspapers, which are designed for us married ladies, setting forth our duty in relation to "making our homes happy to our husbands—that we should always welcome them with a cheerful smile when they come in from the cares and fatigue of the day, and do all we can to make married life pleasant to them," &c. Now this is all well, I acknowledge, and I trust I strive to reduce that theory to practice. But allow me to inquire if the cares and fatigues of the wife are always appreciated by the husband?

Shall I give a short sketch of domestic *life as it is;* not of course describing a family as it should be, but I wish to give a fair example of every-day life at home.

My neighbour, Mr. Benson, is a lawyer by profession, and is what the world calls a respectable man. His income is small, but he married a lady who was able to furnish their small house handsomely, and they have some hopes of property in reversion.

Mrs. B—— has been a wife twelve years, and is the mother of five children, the youngest but a babe, and the family are as happy as the larger portion of families.

It is a Monday morning, and this speaks "unutterable things" to a New England wife, who has been married a dozen years. Mr. Benson has had his breakfast in season—has kissed the children and gone to the office, where the boy has a good fire—the books and papers were all in order, and Mr. B. sits down to answer a few agreeable demands upon his time, which will evidently turn into cash. He goes home to his dinner punctually at one o'clock; it is ready for him—he takes it quietly, perhaps frolics ten minutes with the baby, and then hurries back to his office. At the hour for tea he goes home—everything is cheerful, and to quote the simple rhyme of an old song:

> The hearth was clean, the fire was clear,
> The kettle on for tea;
> Benson was in his rocking chair,
> As blest as man could be.

But how has it been with Mrs. Benson through the day? She has an ill-natured girl in the kitchen, who will do half the work *only*, at nine shillings per week. Monday morning at eight o'clock—four children must be ready for school—Mrs. Benson must sponge their faces and smooth their hair—see that books, slates, pencils, paper, pocket handkerchiefs,—yes four of them,—all are in order, and now the baby is crying—the fire is low—it is time Sally should begin to wash—the parlor, the chamber, the breakfast things are all waiting. Well, by a song to the baby, who lies kicking in the cradle—a smile to smooth ruffled Sally, and with all the energy she can summon, things are straightened out, and the lofty pile of a week's wearing begins to grow less; but the time shortens with it—it is almost dinner time—by some accident the joint of meat is frozen—company calls—Mr. Benson forgot to get any eggs on Saturday. Mrs. B. must do the next best way—the bell rings twelve—the door opens, and in rush the children from school. John has torn his pantaloons. Mary must have some money *then* to get a thimble, she has just lost hers. William has cut his finger with a piece of glass, and is calling loudly for his mother.

Poor Mrs. Benson endeavours to keep cheerful, and to look delighted in the hubbub; and now the dinner, by her efforts alone, is upon the table; her husband comes in, and perhaps wonders why the "pie is not a little better warmed;" and with this comment, and a smile *on the baby*, he is off till it is time for tea. I forbear to finish the day, Mr. Editor, and I shall say the afternoon is made up of little trials, too small to mention, but large enough to try the faith and patience of all the patriarchs.

Now, sir, this wife surely has borne the "burden and heat of the day!" her limbs are wearied, her whole energy of mind and body exhausted, and she is exhorted to "welcome her husband with a smile." She does it, for woman's love is stronger than death. I would ask, should not Mr. Benson give his wife a smile? What has he done to lighten her cares through the day? How is it! In nine cases out of ten, he wishes Mrs. Benson would put all those noisy children to bed; he should be glad to have her tell David to go to the post office for letters and papers; and at length, when half way between sleeping, he looks at his pale, exhausted *help mate*, and exclaims, "Well, wife, you begin to look a little fatigued."

I pray you now, Mr. Editor, to be more just, and now and then exhort husbands to do their part towards making home more agreeable to their wives, when the latter have, like Atlas, borne a world of cares and vexations through the day.

For the Farmers' Cabinet.

The Potatoe Disease.

Mr. Editor,—Those who have but recently commenced the study of agricultural chemistry, may ask, if "Chemico" is correct in his theory, that the potatoe disease is caused by a surplus of carbonic acid, how is it that the potatoes do not become diseased earlier, for it cannot be denied that the carbonic acid is generated during the entire growing season? I will endeavour to answer this query. It is well known that the carbonic acid which is generated prior to the first of July, for instance, is divided among all the varieties of plants that grow in our climate. There being such a heavy demand for it, no plant can get enough, apparently, to injure it—hardly as much as it can use for a good purpose. But after the first of July, for instance, some of these plants seed and die, and commence decaying. Now it will be perceived, that all plants of this kind—and you are aware that there is a very heavy proportion of them—such as our wheat, rye, oats, and hay crops, and a thousand others, not only do not take their share of carbonic acid, and consequently those plants which grow till fall, have a larger proportion—but many of them commence rotting immediately, and add to the increased supply of carbonic acid which has been thrown upon the fall plants.

In former years, even this increased supply of carbonic acid after harvest, was not sufficient to disease the crop of potatoes, unless other circumstances, local in their nature, assisted it, but latterly, a supply of carbonic acid has been opened, that assisted the already great supply from the decay of dead plants. I refer to the increased consumption of stone coal. This, together with extensive manuring, appeared to have added so enormously to the supply of carbonic acid, that the plants, already strained to the utmost in the fall season, could not any longer resist the evil influence, and those most subjected to its virulence have given way to a power, which, while it should have exercised a beneficial influence, has, through the want of knowledge, proved a dreadful and destructive enemy.

The supply of carbonic acid, it appears, is not yet sufficiently heavy to exercise an unfavourable influence, until it is assisted by that arising from the decay of the early vegetation, or until all, or nearly all, of the causes of the formation of carbonic acid are acting together. That this will not always be the case, unless vigorous measures be taken, I am strongly inclined to believe. The large and increasing consumption of stone coal is adding every year to the carbonic acid; and the time is not far distant when the potatoes will become diseased before the tops are fully developed, and other vegetation will suffer in like proportion. At present this supply has increased the growth of the early vegetables. During the early part of the past season, I noticed the extremely luxuriant appearance of the early vagetation. Every one noticed it, and it was the subject of general remark. Every thing of a vegetable nature grew as I never knew it to grow before, and plants which, in former years were rather small, last season grew to an enormous size. The hay crop was extremely large. This vegetation, when it came to decay, could not produce any other than an unfavourable effect. Its increased size must inevitably increase the supply of carbonic acid, and I mentioned at the time to my friends, that this extreme luxuriance boded ill to the potatoe crop, and that if the weather was not so extremely dry and cool as to cut short the crop by drought, the potatoe disease would be unusually severe. The result has been as I anticipated, and the potatoe crop has been very much shortened in consequence of the early attacks of the disease. It has shortened the crop by attacking the tops in some instances, and killing them almost as soon as the tubers began forming; so much has this been the case, that many farmers have no potatoes to dig—none having been formed. This is where the disease has been unusually severe.

But though the disease has attacked the crop later this year than it will do, in all probability, in future years, still it attacked the crop earlier this year than it did in 1842, as any one may see who will examine the Reports of the Commissioner of Patents. And the disease will go on attacking the crop earlier and earlier every year, until at last there can be no potatoes raised, unless a proper system of cultivation be adopted.

I have but the last two Reports of the Commissioner of Patents by me, and having no other source of information on this subject, I cannot tell how early in the season the disease commenced generally, during 1842 and 1843, but in 1844, I learn that it began in the latter part of August and the early part of September. This year, 1846, it began about a month earlier, as we have satisfactory accounts of its ravages as early as the latter part of July and the early part of August. Thus, I am inclined to believe, it will begin earlier and earlier every season, until the supply of carbonic acid from the consumption of stone coal, will be sufficient of itself, without waiting for the death

and decay of the early vegetables, and the result will be disastrous; unless intelligence spread, the cause become well known, and the proper remedy applied.

CHEMICO.

October, 1846.

Agricultural Colleges.

THE late English papers give us an account of an Institution now on foot there, which we hope soon to see copied among us, by some State endowments.

"GLOUCESTERSHIRE. — The Cirencester Agricultural College is now open for the reception of students, of whom, when the additional wing now erecting is completed, it will be capable of accommodating two hundred. It is a spacious and imposing structure, of the ornamented Elizabethan style, the principal front, which is to the south, showing a façade of one hundred and ninety feet by fifty feet in height, the centre relieved by a well proportioned tower, surmounted at the north-west angle by an octangular turret, the whole rising ninety-three feet from the lawn. A theatre for lectures is in project, and it is in contemplation to add a chapel. 'A more pleasant or healthy site,' says the *Wilt Standard*, 'could hardly have been chosen. It is situated on an elevated part of the farm, about a mile and a half from the town of Cirencester, commanding from the south an extensive prospect over North Wiltshire; while the rear of the building is near adjoining the park, and sheltered by the woods of Earl Bathurst. The objects of the Institution are to provide what has ever been a desideratum—scientific instruction in all that pertains to agriculture, and every subject treated in such a manner and to such an extent as its bearing upon agriculture demands; while every description of trial and experiment will be made, so as not to risk general results, it being the determination of the council that the system pursued on the farm shall be the one most profitable, and such as the pupils may adopt with confidence in their future occupations. Students are only admissible upon the nomination of a proprietor, or donor of £30. From fourteen to eighteen is the age at which they will be eligible to enter; nor will they be allowed to remain but six months after their twentieth birthday. The annual payment of each student is £30, with such charges as the council may fix for the library, museum, &c. Non-resident students of any age will be allowed, on the recommendation of a proprietor, to attend the lectures, and avail themselves of the practical instruction, upon the same annual payment of £30. While attending at the college, or on the farm, they will be amenable to the college authorities for their conduct, on pain of forfeiting the fee. The management of the college is committed to the principal, who is responsible to the council for the orderly conduct of the students, and for the general well being of every department. A regular attendance of the daily prayers of the Church of England, and at the parish church on Sundays, is required; but the sons of dissenters may respectively attend such places of worship as their parents shall, by letter to the principal, request."

Among ourselves large sums are, in nearly all the States, expended in agricultural societies, and by some, experimental farms have been founded.

As the first imperfect means of awakening popular attention to improvements in cultivation, agricultural societies have no doubt done much. But they stimulate rather than instruct; for they seldom embrace a single member really skilled in cultivation as an art, and they do not teach, any further than by a few days' meeting in the year, and some practical examples of improved methods. But, besides, husbandry is fast becoming a science of no little extent and complexity; so that not grown men but boys must be the pupils, and a regular agricultural education given.

Public experimental farms have, we believe, been entire failures in every instance, except as jobs for individuals, or places where mere visionaries have been permitted to expose their incapacity at the public expense. Good, we fancy, they have done none. Indeed, they are a mere mistake, we suppose, unless as an appendage to the agricultural college; attached to which they serve as the chemical laboratory does to lectures on that science, or as the dissecting room to a course of anatomy and surgery. What lectures and demonstrations would be, each without the other, in these latter cases, an experimental farm is without a college, and a college without an experimental farm.

Next above these several means, as heretofore used among us, we must place agricultural journals; and these alone have no doubt done more to spread among us improvements in rural economy than all other things together. They have been to us the great creators of an art, upon the excellence of which depends public happiness—we might add, public morals—more than upon all other things whatever. But we must not be misunderstood by that narrow-minded sect who call themselves philosophers and free-traders:

agriculture cannot flourish, unless by an equal progress of all the other useful arts: and these require *direct* national encouragement; while *it* can receive little, in our present state, except *indirectly*, through them.

But even such journals are insufficient for the great and regular purpose of bringing about a diffused skill in proper agricultural science. Instructing only the grown, they can instruct but slowly and imperfectly. Regular institutions are needed to give the young, who are designed for husbandmen, a complete elementary education, in which tillage shall be the chief object to which all the other studies tend, just as much as arms are the main matter at West Point.

For this purpose, we see what they are doing in England: and now why is it that our great landed proprietors everywhere, and our planters in particular, do not see that it is time to consider whether they cannot raise up something of the same sort, and give at least a part of their sons an education proper to their safest destiny? Would there not be a thousand times more sense in this than in breeding them all up to law, or for politics, or in a very poor semi-literary style, that has no application to their future life, and can add nothing to its usefulness! —*National Intelligencer.*

From the Lancaster County Farmer.

Experiment with Lime on Corn.

In the spring of 1845, I ploughed up a small piece of meadow ground which lies on a hill side, gently sloping to the south. It is a thin soil, somewhat sandy; and was so poor that it had produced very little grass for several years. I planted it in potatoes, putting a small fork full of half rotted straw manure on each hill. The yield was at the rate of about 250 bushels per acre. Last spring I spread a small quantity of manure, say about three wagon loads to the acre, on the same ground, broke it up *deep*, and planted it in corn—putting about half a pint of slacked lime in each hill *before* the corn was covered. I was told that *so much lime* in the hill would "burn up the corn." But it did not "*burn up*," though it *grew* up very fast; and, although the season was very dry, it did not appear to suffer much from drought. I ploughed and hoed it twice only, ploughing deep the last time. And now for the yield: on measuring the product, I found it to be at the rate of ninety bushels of shelled corn to the acre; while another field, of much better soil, on which I put about the same quantity of manure *without any lime*, and which was planted on the same day, only produced thirty bushels per acre. This small yield was thought to be owing to drought.

I state the above facts without further comment, only that I intend to try the experiment again this year.

ROBERT SEEVERS.

West Carlisle, O., Feb. 1847.

AGE OF PLANTS.—Some plants, such as the minute fungi termed mould, only live a few hours, or at most a few days,—Mosses for the most part, live only one season, as do the garden plants called annuals, which die of old age as soon as they ripen their seeds. Some again as the foxglove and the hollyhock, live for two years, occasionally prolonged to three, if their flowering be prevented. Trees again, planted in a suitable soil and situation, live for centuries. Thus the olive-tree may live three hundred years; the oak double that number; the chesnut is said to have lasted for nine hundred and fifty years; the dragon's-blood tree of Teneriffe, may be two thousand years old. When the wood of the interior ceases to afford room, by the closeness of its texture, for the passage of pulp or sap, or for the formation of new vessels, it dies, and by all its moisture passing off into the younger wood, the fibres shrink, and are ultimately reduced to dust. The centre of the tree thus becomes dead, while the outer portion continues to live, and in this way trees may exist for many years before they perish.—*Farmer and Mechanic.*

A CALIFORNIA FARMER.—A gentleman writing from California, to the editor of the St. Louis Reveille, says his stock consists of about 4000 head of oxen, 1700 horses and mules, 3000 sheep, and as many hogs. They all pasture themselves without difficulty in the rich prairies and bottoms of the Sacramento, and only require to be attended. This is to be done by Indians, of whom he employs 400. His annual crop of wheat is about 12,000 bushels, with barley, peas, beans, &c., in proportion.

KIND WORDS.—If the happiness of others is not motive enough for kind words, we may find a motive in their influence on ourselves. The habit of using them, will at length conform our feelings to our language. We shall become kind, not only in our speech, but in our manners and in our hearts. On the other hand, to make use of carping, harsh and bitter words, seldom fails to sour the disposition, and to injure the temper.

Annual Exhibition, New York.

The New York State Agricultural Society will hold its Annual Exhibition at Saratoga Springs, on the 14th, 15th, and 16th of Ninth month next. Its premium list is certainly large and liberal, the amount exceeding, we believe, $3000. We have seen no such list in this country. From many others in the long list of premiums, we select the following:

For the best cultivated farm of not less than fifty acres, exclusive of wood-land and waste-land, regard being had to the quantity and quality of produce, the manner and expense of cultivation, and the actual profits—they offer a

First premium of $50.
Second premium, $30.
Third premium, $20.

The persons making application for these premiums, must submit written answers to the following questions:

To all who furnish full answers to these questions, premiums will be given consisting of single volumes of the Transactions of the State Society, or sets of these volumes, according to the value of such reports.

SOILS, &c.

1. Of how much land does your farm consist? and of how much wood, waste, and improved land respectively?

2. What is the nature of your soil and subsoil? Is there limestone in it? What rocks are found in it?

3. What do you consider the best mode of improving the different kinds of soil on your farm? Of clay soil, if you have it—of sandy soil, and of gravelly soil? Answer separately.

4. What depth do you plough? What effect has deep ploughing had on various soils?

5. Have you made any experiments to test the difference in a succeeding crop, between shallow, common, or deep ploughing?

6. Have you used the subsoil plough? and what have been its effects on different soils and crops?

MANURES.

7. How many loads of manure—30 bushels per load—do you usually apply per acre? How do you manage your manure? Is it kept under cover? or are there cellars under your barns or stables, for receiving it?

8. What are your means, and what your manner of making and collecting manure?

9. How many loads of manure do you manufacture annually? How many do you apply?

10. How is your manure applied; whether in its long or green state, or in compost? For what crops, or under what circumstances, do you prefer using it, either in a fresh or rotten state?

11. Could you not cheaply, essentially increase your supply of manure by a little extra labour?

12. Have you used lime, plaster, guano, salt, or any substance, not in common use as manure? In what manner were they used, and with what results?

TILLAGE CROPS.

13. How many acres of land do you till? and with what crops are they occupied, and how much for each crop?

14. What is the amount of seed planted or sown for each crop—the time of sowing—the mode of cultivating, and of harvesting—and the product per acre?

15. What kind and quantity of manure do you prefer for each, and at what times, and in what manner do you apply it?

16. How deep do you have manure covered in the earth, for different crops and different soils?

17. Have your potatoes been affected with any peculiar defect or disease, and have you been able to discover any clearly-proved cause for it, or found any remedy?

GRASS LANDS, &c.

18 What kind of grasses do you use? How much seed of clover, or the various kinds of grass do you sow to the acre? At what season of the year do you sow,—and what is the manner of seeding?

19. How many acres do you mow for hay, and what is the average product? At what stage do you cut grass, and what is your mode of making hay?

20. Is any of your mowing land unsuitable for the plough, and what is your mode of managing such land?

21. Have you practised irrigating or watering meadows or other lands, and with what effect? What is your particular mode of irrigation, and how is it performed?

22. Have you reclaimed any low, bog or peat lands? What was the mode pursued, the crops raised, and what the success?

DOMESTIC ANIMALS.

23. How many oxen, cows, young cattle, and horses do you keep, and of what breeds are they?

24. Have you made any experiments to show the relative value of different breeds of cattle or other animals for particular purposes, and with what results?

25. What do you consider the best and cheapest manner of wintering your cattle; as to feed, watering and shelter?

26. How much butter and cheese do you make annually, from what number of cows, and what is your mode of manufacture?

27. How many sheep do you keep? of what breed or breeds are they? How much do they yield per fleece, and what price does the wool bring? How many of your sheep usually produce lambs, and what number of lambs are annually reared? How much will your sheep or lambs sell for per head to the butcher?

28. What do you consider the best and cheapest manner of wintering your sheep as to food, watering and shelter? How many in proportion to your flock, if any, do you lose during the winter?

29. How many swine do you keep, of what breed are they, how do you feed them, at what age do you kill them, and what do they weigh when dressed?

30. What experiments have you made to show the relative value of potatoes, turnips, and other root crops, compared with Indian corn, or other grain, for feeding animals, either for fattening or for milk?

FRUIT.

31. What is the number of your apple trees? Are they of natural or grafted fruit? and chiefly of what varieties?

32. What number and kind of fruit trees, exclusive of apples, have you? and what are among the best of each kind?

33. What insects have attacked your trees, and what method do you use to prevent their attacks?

34. What is your general management of fruit trees?

35. What other experiments or farm operations have produced interesting or valuable results?

FENCES, BUILDINGS, &c.

36. What is the number, size, and general mode of construction of your farm buildings, and their uses?

37. What kinds of fences do you construct? What is the amount and length of each kind? And their cost and condition?

38. To what extent are your various farming operations guided by accurate weighing and measuring? And to what degree of minuteness are they registered by daily accounts?

39. Do you keep regular farm accounts? Can you state the annual expense in improving your farm, and the income from it, with such precision that you can at the end of the year, strike an accurate balance of the debt and credit? Would not this practice conduce very much to close observation, careful farming, and in the end, much improve our system, as well as better our fortune?

We also find the following:—

Whereas, the Agricultural Society of the State of New York, has not an experimental farm; and whereas, to some extent, satisfactory experiments can be made by intelligent farmers on their own farms, therefore

Resolved, That the undermentioned list of premiums be offered to induce public spirited individuals, to lend their valuable aid in extending the boundaries of accurate rural knowledge.

Three premiums will be awarded of $30, $20, and $10, in January, 1848, for the best experiment upon a herd of not less than eight cows, to determine the relative advantages of soiling, or depasturing milch cows. The experiment to be conducted as follows:

1st. The experiment must commence on the first day of May, and be continued until the first day of November.

2nd. The cows to be divided in two lots of four each. One lot to be soiled, the other depastured. Before commencing the experiment, each lot must be weighed and the record of the weight returned to the committee. It is necessary that the two lots shall be as near alike in weight and milking properties as possible.

3rd. The milk of each lot to be weighed separate daily.

4th. The manure made from those soiled to be ascertained in cords.

5th. An account to be kept of the expense of soiling, also detailed statement of the entire management, together with the measurement of the land occupied in soiling, and each to be returned to the committee.

6th. A description and measurement of the land occupied for pasture, also to be made.

7th. Each lot to be weighed at the conclusion of the experiment.

THE Agricultural Society of the State of New York is a broad concern. Its means are large—the sphere of its operations are large—and it is, as it professes to be, a *State* interest. We cannot imagine that it can fail to exert a powerful influence upon the agriculture of that noble State. Its movements must give an impetus that will be felt throughout her length and breadth, and which must widen still more, those giant strides which have made her population the most numerous of any State in the Union, and her prosperity equal to that of the most prosperous.—ED.

A GREAT deal of ground will be planted in corn this spring. This is right: it is our staple crop. The demand must be large.

The Short-horns in America.

The following history of the early introduction of *Short Horns* into this country, taken from *Allen's American Herd Book*, can hardly fail to be valuable to every one of our readers. Great national benefits often result, not only from small beginnings, and individual enterprise, but they not unfrequently are tardy in their consummation. The introduction of improved breeds of cattle and sheep, will entail a debt of gratitude to those who foresaw its advantages.—Ed.

We are informed by Dr. Samuel D. Martin, of Colbyville, Kentucky, "As early as 1783, there were short-horn cattle imported into Virginia. Some animals of this importation were called the "milk breed," and some the "beef breed;" and in 1785, one of the Mr. Pattons brought to Kentucky a half-blood bull of the "beef breed." In 1797, old Mr. Patton brought to his residence in Clarke county, Kentucky, a bull and cow, directly descended from imported stock, of what was then called the "milk breed" of cattle; also some *half*-blooded cows of both the "milk" and "beef breeds." The "beef breed" were *long*-horned cattle,—large, coarse, and rough; coming slowly to maturity, and fattening badly, until fully grown, and were tolerable milkers. The "milk breed were *short*-horned cattle, coming earlier to maturity, and fattening more kindly. Their milking qualities were extraordinary. It was not at all uncommon for cows of this breed to give 32 quarts of milk daily. Mr. Patton's short-horn bull was called Mars; his cow, Venus. The cow died, *leaving only two calves, both bulls.* The produce of Mars was spoken of by our old breeders in the highest terms, being superior, both for beef and milk.

"In 1803, Mr. Daniel Harrison, of Clarke county, Kentucky, purchased of Mr. Miller, of Virginia, a bull called Pluto, of the "milk breed." Messrs. Welton and Hutchcroft also brought to Kentucky a bull called Shaker, of the "milk breed." Capt. Wm. Smith also brought to Kentucky a very large bull called Buzzard, a mixture of the 'milk' and 'beef breed.' Messrs. Cunningham and Inskeep brought to Kentucky two bulls of this breed: in one the 'beef,' and in the other the 'milk breed' appeared to predominate. The descendants of all these cattle were called, in Kentucky, the 'Patton stock.'"

According to this account, no *pure* short-horn blood descended beyond one generation, as the cow Venus died, leaving only *bulls*, of her produce. Doctor Martin continues:

"Stock of 1817. In this year, Mr. Lewis Sanders, a wealthy merchant of Lexington, Kentucky, sent an order to England for twelve of the best cattle that could be purchased, for breeders. They were selected by Mr. Etches, of Liverpool, a capital judge of short-horns, who since assured Gen. Garrard, of Kentucky, that they were the best of their kind then to be had in England. Six of this importation were short-horns, or Teeswaters. The bulls looked very much like the picture of Mr. Coates' 'Patriot,' and the cows were generally fine milkers.

"In 1818, Mr. Prentice imported from England two bulls of the short-horn breed. These also have been spoken of as the stock of 1817, and are remarkably fine animals.

"The names of these importations stand thus:

"*Bulls.*—Sam Martin, Tecumseh, Comet. *Cows.*—Mrs. Motte, The Teeswater Cow, The Durham Cow; imported by Mr. Sanders.

"*Bulls.*—Prince Regent, and John Bull; imported by Mr. Prentice.

"These cattle were bred pure until other short-horns of later importations were introduced, which were extensively crossed upon their descendants."

Previous to the revolutionary war,—A. D. 1775,—a Mr. Heaton emigrated from England to New York, at which latter place he was for many years a butcher. In the year 1791, he went to England and obtained several short-horn cattle from George Culley, of Grindon, Northumberland. Afterwards, in 1796, he obtained from Charles Colling, a short-horn bull and a cow, all which he brought to his farm in Westchester county, New York, where he then resided.

Mr. Heaton bred these cattle some years in their purity; but after his death they were scattered, and there are many of their grade descendants now in Westchester county.

About the year 1815–16, Mr. Cox, an Englishman, imported from England a bull and two heifers—which were pure short-horns—and settled in Rensellaer county, New York. The heifers are said to have been remarkable for their milking qualities. Upon his death, or removal,—we are not certain which,—these cattle and their produce were purchased by Mr. Matthew Bullock, of Bethlehem, Albany county, who bred them many years. About the year 1822, Mr. Bullock, in connection with a Mr. Wayne, imported two short-horn bulls; one a light roan, called "Comet," or "Cornet," for he went by both names; the other a red, called "Nelson." These bulls were used alternately on the Cox stock, and from them descended the valuable tribe locally known as the "Bullock" stock, remarkable for their robust size and extraordinary milk-

ing qualities. In 1830, Mr. Bullock purchased "Copson," just imported by Mr Smith, of Upper Canada, with which he again crossed his herd. These cattle have been widely distributed in the river counties of New York.

In the month of July, 1818, a yearling bull and heifer were imported into Boston, Massachusetts, by Mr. Cornelius Coolidge, a merchant of that city. They were bred by Mr. Mason, of Chilton, Durham, whose herd was justly celebrated for its high breeding and purity. The bull was called Cœlebs, and got by Jupiter (342); his dam by Wellington (679). The heifer was Flora, called by some Old Flora, and got by Lafon's bull, which was got by Comet (155). Flora's dam was also got by Comet, and gave 33 quarts of milk per day. Lafon's bull weighed, when two years and three months old, 1950 pounds. These particulars we gather from the papers of Mr. Coolidge, accompanying the importation, kindly copied for us by Mr. Sanford Howard, assistant editor of the Albany Cultivator.

In a letter accompanying the above, Mr. Howard remarks: "Cœlebs and Flora were sold to Col. Samuel Jaques, of Charlestown, in 1820, and remained his property until they died. While with him, Flora had fourteen calves, from 1819 to 1833—ten of which were by Cœlebs. One of these, a heifer, Europa, I afterwards owned. Most of her calves I knew, and they were excellent animals. I frequently saw both Cœlebs and Flora, while in the possession of Col. Jaques.* He was a large, deep-bodied, and heavy bull—red-roan in colour, and a fine handler: his live weight, in fair condition, about 2,400 lbs. Flora was chiefly red, with a few white spots; a fine cow, and a good milker."

We are indebted to Mr. Howard, also, for particulars touching other early importations.

"The late Gorham Parsons, Esq., of Brighton, Massachusetts, in 1818, imported a bull called "Fortunatus,"—afterwards "Holderness." He was bred by George Faulkner, Esq., of North Allerton, Yorkshire, England. He was warranted to be a thorough-bred short horn, and bore all the characteristics of the race. His descendants, from both thorough-bred and native cows, were disseminated considerably through New England.

"In 1820, Theodore Lyman, Esq., of Boston, imported a short horn bull, which he afterwards sold to Israel Thorndike, Esq., who sent him to his farm in Maine.

"About the year 1825, Mark W. Peirce, of Portsmouth, New-Hampshire, imported a short horn bull called Nelson, and a cow called Symmetry, high-bred, and well-descended animals. This bull and cow produced some very superior stock. The noted ox Americus, which travelled as a show, and went to England for that purpose, was one of their progeny. He was, though enormously large, a beautiful animal. The "Great Bull Hercules," as he was called, which was also carried about for a show, was full brother to Americus. This was much the largest bull I ever saw, yet by no means coarse."

About the year 1818, Mr. Stephen Williams, of Northboro', Massachusetts, imported the bull Young Denton, (963) bred by Mr. J. Wetherell, in England. He was the sire of many very excellent Short Horns in Massachusetts, besides numerous grade animals, the heifers of which proved, in most instances, extraordinary milkers.

From the year 1820, several fine cows were imported into Boston, by gentlemen of that city and its vicinity, selected from the herds of Mr. John Wetherell, and other eminent breeders. Among those concerned, were Messrs. Williams, Lee, Derby, Prince, Munson, and others. Admiral Sir Isaac Coffin,* about the year 1823, presented to the Massachusetts Agricultural Society a bull and heifer, Admiral (1608) and Annabella, both bred by Mr. Wetherell. In connection with these fine animals, we regret to say, they were not properly appreciated by the farmers of Massachusetts; and their importers, mostly merchants in the city, or residing in the vicinity of Boston, who had introduced them more from a spirit of munificence toward their countrymen, than for their own individual benefit, could not pay particular attention to their breeding, and many of them were scattered and lost.

About the year 1828, Mr. Benjamin Rod-

* Cœlebs was the original sire of Col. Jacques' noted family of cows, which he styled "Cream pots" on account of the exceeding rich quality of their milk. He crossed them high up in the blood of Cœlebs. We saw them in 1837, some fifteen or twenty in number. They were remarkably nice cows, generally red in colour, and symmetrical in shape. Ther milk, which we saw in pans, was remarkable for the thickness and weight of its cream. This quality, Col. J. assured us, was peculiar to the cows descended from Cœlebs.

* Admiral Coffin was an American, born in Nantucket. He went to England when a boy—joined the British navy before the American revolution, and remained there till his death, some years ago. He always kindly remembered the state of his birth, which he manifested by many handsome donations to its agriculture.

man, of New-Bedford, Massachusetts, imported three heifers, Adaliza, Dulcibella, and Galatea; and a bull, Devonshire, (966) bred by Mr. Whitaker, of Burley, Yorkshire, and selected by Mr. Francis Rotch, then in England.

In 1823 Mr. John S. Skinner, then editor of the American Farmer, Baltimore, Maryland, imported two heifers, Conquest and Pansy, and a bull, Washington (1566) for Gen. Stephen Van Rensellaer, of Albany, N. Y. These were bred by Mr. Champion, of Blyth. In the hands of Gen. Van Rensellaer they were bred many years, producing much excellent stock, and their descendants are now scattered through several different States. Previous to this, in the year 1821, Mr. Skinner imported from the herd of Mr. Champion, other Short Horns, which were afterwards purchased by Gov. Lloyd, of Maryland, who sent them to his estate on the eastern shore. These were a bull, "Champion" and two heifers, "White Rose" and "Shepherdess," from which several good animals descended.

During the years following 1822, up to 1830, Mr. Charles Henry Hall, of Harlem, N. Y., imported several fine Short Horns, some of which were descended from celebrated herds in England, and two of them were from the herd of Robert Colling. He also drew into his possession several Short Horns which were imported at an earlier date by other gentlemen of his neighbourhood. From these he bred largely, and their descendants were incorporated into many excellent herds. We have made efforts to obtain the correct pedigrees to the originals of Mr. Hall's stock, which was some years ago principally sold, and broken up: but some of the original papers were distributed with the cattle themselves; others have been mislaid; and of others still, but loose memorandums exist, giving only casual references to their blood. Some of these cattle were imported before the first English Herd Book was published. As an accurate judge of good animals, Mr. H. is rarely surpassed.

In 1824, Mr. John Hare Powell, of Philadelphia, commenced importations from the herd of Mr. Whittaker, and bred many years with great spirit and success. His importations were numerous for that day. He bred largely for some years, and his sales were frequent, and the prices obtained encouraging. Some of his cattle went into Kentucky and southern Ohio. His cow, Belina, as recorded in "Hints for American Husbandmen," in the month of May, 1827, on pasture, with Indian meal slop, at Powelton, near Philadelphia, gave 26 quarts of milk per day, from which the milk for three days was churned, and yielded at the rate of 20¼ pounds per week! The fact is thoroughly attested by several certificates of most respectable persons. This cow was imported in 1825, and descended from the stock of Robert Colling through his and Charles Colling's celebrated Red Rose, Wildair, and Dutchess tribes of milkers.

Mr. Powell continued breeding to a moderate extent until about the year 1840, when he disposed of his principal herd.

We now arrive at the year 1834, up to which period the Short Horns had been steadily progressing, *earning* their way into the good opinions more or less of the people of the United States. But a moderate degree of spirit was manifested to push them forward by their breeders, generally, and they were known imperfectly, beyond the immediate locality of their homes. Their numbers, however, were considerable, and wherever bred, their reputation was fortified by their excellence, both in the dairy and at the shambles. This year, however, commenced a new era in their annals.

An association of breeders and graziers in the Scioto and Miami valleys of Ohio, dissatisfied with the slow progress of their native cattle, and their general deficiencies for the best markets—large herds of which were annually fed, and driven to the Atlantic states—resolved to introduce a better breed; and after several meetings and consultations, concluded to dispatch an agent to England for the purpose of making an importation from some of the best breeds of that country. The principal gentlemen composing that association were Governors Trimble and Vance, Messrs. Felix, George and William Renick, Thomas Huston, Michael L. Sullivant, and some others. Their agent, Mr. Felix Renick, proceeded early in the summer, to England, and in September returned with upwards of twenty Short Horns selected from the herds of Mr. Bates, the Duke of Leeds, the Earl of Carlisle, Mr. Whittaker, Mr. Paley, Mr. Mason, Mr. Ascroft, and others.

This importation was received with much satisfaction by the proprietors, who commenced breeding them with great spirit. The following year another importation was made of about the same number; and the next season, still another importation of a smaller number was made by the same association. These were followed by several importations by gentlemen, among whom were Gen. Shelby and Henry Clay, Junior, of Kentucky, and by Mr. Neff, of Cincinnati, in 1838.

In 1837–8–9, Mr. Whittaker sent out upwards of one hundred animals on his own account, and upon orders forwarded from the

United States. His cattle were chiefly sold at public auction, at Powelton, near Philadelphia, the residence of Mr. Powel. During these years, Short Horns had become an object of great speculation, and many were sold in Kentucky and Ohio, at prices ranging from five hundred to one thousand dollars each! Several smaller importations were also made by individuals on their own account, and during the time from 1824 up to 1840, probably not less than three hundred Short Horns were brought into the United States.

Among the individual importations from 1836 to a late period, were those of several select and valuable animals from the most reputable herds in England, by Mr. E. P. Prentice, of Albany, Mr. George Vail, of Troy, Mr. James Lenox, and Mr. John F. Sheafe, of New York; Mr. Whitney, of New Haven, Connecticut, and sundry other ones not now recollected.

In 1835 a considerable number were brought out by Mr. Weddle, from Yorkshire, who settled near Rochester, N. Y. He bred these cattle for a few years, and from 1838 to 1841 disposed of his principal stock. Many of them were scattered through the Genesee country, and some of the choicest were sold to Gen. Dudley, and Mr. Harrison Blanton, of Kentucky.

The success which has thus far attended the breeding and rearing of Short Horns in the United States, is altogether satisfactory. Our climate, soils, and food, are highly favourable to their growth, and development. They are hardy to withstand our cold, and our heats, and with an abundant forage, even of the coarser kinds, they flourish. They are probably less cared for, and fed, than in England; yet no neat cattle pay better for their care and keep than these. They are, as a race, good milkers, remarkable in the richness of its quality, and the quantity is frequently surprising. For beef, they are unrivalled. Their capacity to accumulate flesh is enormous, and they feed with a kindliness and thrift never witnessed in our native breeds. In milk, instances have been frequent in which they have given 24 to 36 quarts a day, on grass pasture only, for weeks together; yielding 10 to 15 pounds of butter per week. Were it necessary we might produce many cases in proof. In beef, cows have slaughtered 1200, and 1400 pounds, neat weight, with extraordinary proof; and bullocks upwards of 2500 pounds. Still, few could be spared for such purposes.

Those who have bred them longest, like them best. And the deepest point of depression in their value having been reached, we trust that their future career is to be vigorously onward and prosperous. Their full *history* in the United States, is yet to be written; and with this brief notice, we leave them to the good opinions and confidence of the enlightened friends of American agriculture. To say nothing of them as a creature of utility, every farmer of abundant means, which for this purpose need not be great, and every country gentleman, where properly situated, should cultivate Short Horns. With the increase of wealth and refinement in the United States, the quiet and elegant pleasures of country life are more appreciated. Numerous gentlemen of leisure annually retire from the bustle of city life, preferring the heathful and invigorating recreations of a farm to the exciting cares of the town. Many of this class become deeply interested in rural pursuits, and in a few years are known as eminently practical agriculturists. Among the most fascinating of their retired pleasures, is that of cultivating a taste for fine domestic animals. Among these, the Short Horns stand pre-eminent; and we can perform no more grateful service to ourselves, nor a more beneficial one to such individuals, than to suggest the breeding, rearing, and, if possible, the improvement of this superb class of cattle, as a prominent object of their labours.

For the Farmers' Cabinet.

Shade and Fruit Trees—Insects, &c.

Mr. Editor,—I notice that the Philadelphia papers are discussing the propriety of cutting off the tops and otherwise mutilating the shade trees in the city, in order to avoid the disgusting insects that attack and infest them during the summer. It would give me pleasure to prevent such mutilation, as I greatly admire the beautiful shade trees of Philadelphia.

I am induced to believe that the reason why these insects attack and infest the trees, is that they find in the sap a sweet substance which is formed by a chemical action in the pores of the tree. This chemical action in this case is opposed to the vital action, and is a consequence of a determination of vital force. This loss of vital force is caused, in my opinion, by a surplus of carbonic acid. It is well known that sulphuric acid, properly added to starch, under favourable circumstances, changes it to sugar. I think that carbonic acid acts in a manner similar to the sulphuric acid, when it is added to vegetable fibre. Starch and vegetable fibre are composed of the same elements, carbon, oxygen, nitrogen, and hydrogen. The vegetable fibre has more nitrogen in it than starch has, and on that account is more easily changed;

this accounts for the carbonic acid being able to change the vegetable fibre, while starch remains unchanged, carbonic acid being less powerful than sulphuric acid.

In the sugar-cane, corn-stalk, sugar-maple, &c., the vital action *produces* sugar. Not so, however, in the linden and many other shade trees. In these, if sugar, or any other saccharine substance be produced, it is, as I have before said, by a chemical action, in this case in opposition to the vital action. This does not take place when the vital action is in full force. In the diseased plants, or plants whose vital force is deficient, the carbon, oxygen, nitrogen, and hydrogen, that are absorbed by the plant, and which should go to the formation of vegetable fibre and starch, are changed by the chemical action into a saccharine substance, or sugar. We have striking instances of this in the phenomena of honey-dew. With the sap full of sugar is it strange that the insects are attracted by a tree which offers them such a feast of sweet things?

The question, then, arises, How may the vital force be restored or prevented from suffering this deterioration? I answer, by neutralizing the carbonic acid, and thus deprive it of its power. This may be done by the application of alkalies or alkaline substances? There are a great many of these, and which can be had at a great many different prices. As I cannot mention them all in a communication like this, I will speak of perhaps but one of the cheapest of them, and its mode of application, as a guide to the use of all others. When the tree gets into full leaf, take the salt lye of the soap makers, and mix it with water in such strength as to enable the solution to bear an egg; then add fresh water equal in quantity to your solution. Apply with a long-haired whitewash brush to the larger limbs and the stem of the tree—wash them well, and then take a large syringe and throw the preparation on the leaves of the tree as high as you can. If circumstances will permit, it would be well to sprinkle the ground with the preparation above where it is supposed the roots of the tree may be—aking care not to put too much in one placee, particularly near the foot of the tree.

I have recommended this mode of preparing, because the solution must not be too strong, as it might endanger the life of the tree. Indeed, if a tree be very valuable, great care should be exercised not to apply too much at one time, even of the preparation mentioned above. At intervals of every two weeks the operation might be repeated if the insects attack or still infest the tree. In the latter part of summer, if the season be such that much carbonic acid is formed, it may be necessary to repeat the operation many times, particularly if, as just mentioned, the tree is very valuable, and you are afraid to apply too much at one time for fear of injuring it.

Strong soapsuds is another valuable alkaline substance, and may be used pretty freely, care being taken not to use it too freely.

Fruit trees under like circumstances may be treated, in like manner, with great benefit.

In the hope that this article may be useful in preventing the mutilation and loss of the shade-trees, and in getting rid of the unsightly insects, I remain the public's humble servant. Chemico.

Wilkesbarre, Pa., March 21, 1847.

For the Farmers' Cabinet.

Hydraulic Ram.

A number of articles having appeared in your journal on the Hydraulic Ram, (see vol. 9, p. 59; vol. 10, p. 228, 289, 297, and vol. 11, p. 217, 247, and 249,) and feeling interested in the subject, and being engaged in the manufacture of the ram, and having given its history some attention, I have thought that a few remarks upon the subject might prove interesting to your readers, who seem to be fully aware of the value of this simple and effective machine for raising water.

The first ram we have any account of, is noticed in a letter from the maker, John Whitehurst, to Dr. Franklin, dated March 16th, 1775. This machine was put up at Aulton, Cheshire, England, in 1772; but was not self-acting, as the one now in use.

The invention of the self-acting ram is due to Pierre François Montgolfier, a French paper maker, in 1796.

This machine was much like the one now in general use, extremely simple and effective. He patented several improvements on it in 1816, in England. First in employing two stop valves instead of one; (see cut, letter F, page 294.) Second, a snifting valve, to supply air as it became exhausted from the air-vessel, (*c*). Third, a particular form and arrangement of the air-vessel. Fourth, two plans for double acting rams, or such as are employed to raise pure, by a driving power of impure or foul water. Fifth, the addition of a suction pipe to raise water from a lower level than that of the ram; as from a shallow well. Sixth, an arrangement by which it is applied for blowing furnaces, &c., in place of the bellows.

In 1797 Matthew Bolton, (of the firm of Bolton and Watts,) of *Soho*, England, took out patents, first, for the self-acting ram; second, the addition of an air-vessel; third, a suction ram; fourth, a double ram, having one or two air-vessels; fifth, two syphon rams, one deli-

vering water at the top of the syphon, and the other at the end of the longer leg; (see p. 217 Cabinet); sixth, a weight to secure the opening of the valve (F); and, seventh, a spring for the same purpose.

He was also the inventor of rams to be propelled by distinct power.

A Mr. Haghette combined the ram with the syphon, to raise the water to a higher level than the top of the syphon; the water being delivered from the top.

In 1845 two patents were taken out in the United States for improvements on the ram. One by B. S. Benson, of Baltimore, for a double acting ram, used for raising pure by means of impure water; a peculiar form of stop valve; a spring to insure the opening of the same, and an arrangement to stop the ram when the supply of water fails, and start it again when it is sufficient.

The other, by Erastus W. Ellsworth, of East Windsor, Connecticut, for a syphon ram, which, from the specification, I judge to be much, if not exactly, like the one patented by Bolton in 1797.

Applications have also been made by a gentleman in Chester County, Pa., for a double acting ram.

The above gives a condensed view of the principal improvements which have from time to time been suggested upon the ram.

After a careful investigation of all the plans which have come to my notice, and from numerous experiments, I have come to the conclusion, that the most simple form of ram is preferable in every respect. The parts which need repair should be easily reached; those which need replacing should be as simple and cheap as possible to be good. The size of the machine should be accurately proportioned to the circumstances of the situation.

The driving pipe (B) should be of a proportionate size and length. The length should not be governed by the diameter, as the article on page 248 of the Cabinet asserts; but by all the attending circumstances: the head or fall, the elevation to be raised, and the supply from the spring or brook.

In all cases where a ram is properly made and put up, the following rule will apply to determine the amount of water which can be furnished.

Measure the amount the spring or brook discharges in a given time. Ascertain the greatest amount of head or fall that can be obtained, and the elevation to which the water is to be raised. Then divide the elevation by the head or fall, and the amount of water by the quotient. Deduct 30 per cent. from this result, and it will give the amount delivered in the given time.

For example, suppose an elevation of 60 feet, with a fall of 5 feet. The supply, 4 gallons per minute, or 5760 gallons per day. Then $\frac{60}{5} = 12$; then $\frac{5760}{12} = 480$: and 480 — 30 per cent. = 336 gallons gallons raised per day.

This rule can be depended upon when the ram is properly made and put up. But every defect, either in proportion or mechanism, causes an additional deduction from the amount raised. A small allowance must be made for distance. Rams well constructed will raise water 30 times the fall, and will generally operate for months without any attention. The repairs are simple and easily effected by any person, being less difficult than those of the ordinary house pump. The cost of a ram, put up and ready for operation, is generally less than that of a pump and well, in the same situation.

H. P. M. Birkinbine.

Philadelphia, March 27th, 1847.

For the Farmers' Cabinet.

Bread Stuffs.

I take from one of our Philadelphia papers, though I am unable to designate it, the following statement of the business carried on here in bread stuffs. The sales of flour, corn meal, wheat, and corn, during the week commencing 26th of first month, and ending the 1st of second month, both inclusive, are stated to be as follow:

"Flour — The sales for export including some lots taken on speculation, amounted to 47,500 barrels at $5 62½ to $6 25 per barrel; and extra at $6 50, averaging $6	$285,000
Corn Meal—Sales of 34,000 barrels for export at $3 75 to $4 75, part for future delivery, averaging $4 44	150,940
Wheat—Sales of 32,000 bushels Penna. White at $1 35 to $1 40, and 30,000 do. red at $1 15 to $1 35,	82,000
Corn — Sales of 65,000 bushels Penna. yellow, at 80 to 98 cts., and 10,000 do. Southern White at 87½ cts., averaging 90 cts.,	54,000
Total,	$571,940

Here then we have upwards of five hundred and seventy thousand dollars as the result of one week's transactions in breadstuffs, which is an unusually large amount. When the great Pennsylvania Railroad is completed, connecting our city with St. Louis by an iron band, in operation at all periods of

the year," what may we anticipate as the limit of our operations in this way? With a territory undefined in its extent, a soil as varied as our climate, and consequently an adaptation of both soil and climate to productions of every article of necessity or luxury, it appears to the writer, that we may hope for generations to come, to have our granaries looked to as Europe's great resort with her dense population, in time of need. There is but little danger at present, of our falling into Ireland's deep, radical error—we mean that of having comparatively, but one crop. While we have such a redundancy of land, and that adapted to every variety of produce, we shall endeavour to secure plenty, by keeping up that variety. A goal of unexampled prosperity would *seem* to be before us: yet should we always bear in mind, that as our *rye* crop was stricken in 1836, and as Ireland's distresses show that her *staff* is now blighted, not one only, but a dozen of the staples of this favoured land may be arrested by the frost, the blight, or the worm. While we have abundance, is it not delightful to witness in every section, the opening of our very country's heart, to the appeals of foreign distress, and the cheerfulness with which we yield to those appeals, a part of that, whose value is greatly enhanced by the increased demand occasioned by this very distress. Those who are able to give, enjoy a privilege of great value. C.

Philadelphia, Third month, 29th.

Propagating the Vine.

We have regarded Hoare's Practical Treatise on the Cultivation of the Vine, as among the best. In looking over it a few days since, we were amused with the following fanciful plan, which we insert for the benefit of such as have not the book, and yet may be inclined to try it.—Ed.

We will describe a mode of cultivating the vine, which, from its simplicity and economy, and its easy practical adoption, recommends itself most especially to the notice of a vast class of persons who are not in possession of the means to practice any of the usual methods of culture.

This mode of culture is based upon two important principles connected with the growth of the vine. The *first* of which is, that a body of substances or materials, of the nature already described, being enclosed in a hollow brickwork or masonry erected *on* the surface of the ground, will nourish and support the roots of a vine inserted therein, as effectually as it would do, were the brickwork or masonry enclosing the materials, placed *below* the surface of the ground. The *second* principle is, that the roots of a vine, when enclosed in this manner, and supplied with the requisite degree of moisture, will strike *upwards*, and grow as freely in that direction, as they will *downwards* or horizontally, when the brickwork and materials are *beneath* the surface of the earth.

On these two important principles, an easy and novel mode of cultivating vines may be practised, which may be described as that of building hollow brick erections on the surface of the ground, of any shape, circular, square, or otherwise, and filling them with dry materials of the description already mentioned, then planting in each erection amongst these materials, the roots of a vine, and training the branches of it on the outside surface of the brickwork.

These are the principal features of this method, which, perhaps, will be more clearly understood from a detailed account of the mode of putting up an erection of this description, and planting a vine inside of it.

For this purpose, a hollow circular column five feet high and three feet in diameter, may be chosen. A *circular* erection is the best, because the sun will shine all round it throughout the growing season, and also because the shoots of a vine can be trained so much more easily round a circular column than round one of any other description, having corners or angles to it.

It must first be observed, that, as the soil or ground on which erections of this description can be put, will have no connection whatever with the roots of the vines that are to be enclosed within them, proper and convenient sites may be chosen wholly irrespective of the nature of the soil on which the erections are to be built. Any situation therefore will do, provided it be sheltered, and have an open exposure or aspect facing the course of the sun.

Assuming, then, that a proper site has been chosen for the erection of a column of the above-mentioned description, the following directions in building it are to be observed:—

1st. Lay a course of bricks on the ground in the form of a square, the sides of which shall measure four feet. This is to form the base of the column, and is intended to give it an architectural feature. Now, if the site be near any building or wall, or straight path, then the sides of this base must be at right angles with that building, or wall, &c.; but if none of these exist, then the base must be laid with its corners pointing to the four cardinal points of the horizon. The joints of the brickwork are to be filled in with cement or strong mortar, so as to prevent the roots of the vine from penetrating through into the soil beneath.

2nd. The base of the column being laid, the circle for the brickwork of it must then

be accurately marked out; after which, the first course of bricks is to be laid flatwise, so that their inner ends may point to the centre of the circle, and their outer ones form the periphery of it. Half bricks will be sufficiently strong, provided that at four equally distant parts of the circle, in every course, a whole brick be laid, which will strengthen the work and make it firm. Half bricks, while the cost of them is much less, will not require so much cutting as whole ones, and they will also leave a greater space inside of the column for the reception of the materials. The first circular course being laid, the interior is to remain as it is, hollow.

3rd. Now mark the exact spot in this course where the shoot of the vine is to go through the brickwork, and this should be opposite the centre of one of the sides of the base, that faces either the south or east or any intermediate point. This spot being marked, the second course of bricks is to be laid as before, observing that, as the shoot of the vine is to go through here, a semicircular hole is to be made in the upper surface of the brickwork, of an inch and a half in diameter, to form a passage for the shoot. The second course being laid, a sufficient quantity of materials to fill the column, of the description already mentioned,* having been previously provided and properly prepared, the hollow space is now to be filled with them as high as the surface of the brickwork. They must be put in by the hand, and placed closely and compactly together.

4th. Now plant the vine, observing the directions respecting the roots given in p. 175, which are to be strictly followed. The vine should be a strong plant three years old. It is to be laid on its side, with its roots inside of the column, and its shoot passing through the semicircular hole to the outside of it. That part of the shoot that lies in the hole is to have all its buds cut out, leaving as much of the shoot outside of the column as contains three good buds.

5th. The vine being thus planted, the third course of bricks may be laid, taking care that a brick with a semicircular hole, exactly the same size of the other, is laid over the brick on which the shoot of the vine is resting, and which will then be lying in a *circular* hole, an inch and a half in diameter. The third course being laid, the internal vacancy must be again filled up with more materials, taking particular care to place them close round the inner end of the hole containing the shoot of the vine, so as to prevent the entrance of mice or any other unwelcome intruders. The hole on the outside, also, should be filled with moss, which will give it a more sightly appearance than if left open, and likewise protect the roots during their first growth.

6th. The remaining courses of brickwork may now be laid in succession, and the materials filled in as the work proceeds. When the column is built up within three courses of its intended height, and the materials filled in exactly even with the brickwork, a course of whole bricks must be laid over *the entire surface*, taking care that those which rest on the materials are not to be laid on mortar, but merely jointed with it. This course being finished, the last two are to be formed with whole bricks laid flush with the outside, and with their inner ends slightly sloping towards the centre of the column, which will cause all the rain that falls on them to run towards it, and fall into the sunken hollow space that will be there formed by this circular ring of brickwork. The circular space, which will be about 18 inches in diameter, and 6 inches deep, is intended as a receptacle for all the rain that falls on the surface of the top of the column, which will filter through the single thickness of the bricks, forming the bottom of the hollow space, and thence be distributed by absorption throughout the whole mass of the enclosed materials, thereby supplying that moderate degree of moisture to the roots of the vine, which contributes so advantageously to its nourishment and support.

* The best description of materials for the intended purpose can be easily procured, at any time, and almost in any place. These are, *broken bricks*, *lumps of mortar*, *charcoal*, and *bones*. The three first should be reduced to the size of a hen's egg, or thereabouts. Larger or smaller fragments will do, but when they are about this size they are better calculated to retain the requisite degree of moisture, in connection with the greatest possible extent of surface. The bricks should not be too hard burnt, because their porosity is thereby lessened. Old mortar should be preferred to new, when it can be procured. The bones may either be broken into fragments, or deposited whole, and the fresher they are the better. Any description of bones will do, provided they are those of animals arrived at maturity, and are, therefore, of a solid and lasting nature. Such as have marrow in them should be broken asunder, that the interior surface may be available to the roots of the vines; and the lighter and more porous the charcoal is, the better will it answer the intended purpose. The whole of these materials should be used in equal proportion, measure for measure, and should be well mixed together. But before this is done, the bricks, mortar, and charcoal should be well soaked in urine, and then used immediately. And as these substances convey to the roots of vines an extraordinary supply of nutriment, in a highly concentrated form, a small quantity in bulk, in proportion to that of common soil, will be amply sufficient to support a single vine for a long series of years.

The column will now be complete. The sunken space at the top of it may, if desired, be filled with mould; and mignonnette, or any other annual flower of suitable growth, may be grown in it, and which, hanging pendently over the edge of the column, will present a very graceful appearance.

The pruning and training of the shoots of the vine will be the same as if planted against a straight wall. The circular surface of a column of these dimensions will contain 45 superficial feet; a few years therefore after its erection, the vine will annually yield 50lb. weight of grapes. The whole cost of erecting one, including the enclosed materials, will be about 25*s*.

Columns may be erected of a larger or smaller size than that here described; but if the diameter be much less than three feet, the shape must be that of a polygon of many sides, if built with bricks, of the usual shape, on account of their ends being rectangular.

Horse Power.—We are frequently asked the question, what is understood by a *horse power?* and why that way of reckoning power came to be adopted, and brought into general use?

Before the power of steam was generally known and applied to mechanical purposes, horses were used to raise coal and other heavy bodies, and Mr. Motts, in his experiments, carefully compared the relative power of the different breeds of horses, and found its average equal to raising 33,000 pounds one foot per minute, or what is equivalent, to raise 330 pounds 100 feet, or 100 pounds 330 feet during that space of time, when attached to a lever or sweep of a given length. Thus, this afterwards became the standard of measuring power or force applied to mechanical purposes, and which is still retained in common use.—*Farmer & Mechanic.*

Singular Habits of Swallows.

House martens have a singular practice throughout the breeding season, and more particularly towards the latter part of it, of flying up against the walls of buildings, just below the eaves, and daubing them with mud apparently without any intention of constructing a nest. Perhaps they do not go twice to the same spot: at any rate, these patches of dirt are not applied with any regularity, but may be seen sticking to the brick-work, at intervals of two or more inches all along the front of the building. Just at the present time my own house has a line of these mud patches carried round nearly three sides of it. I fancy I notice, that the birds are more inclined to this sort of proceeding in some states of weather than others. Occasionally, twenty or thirty martens will be engaged in this manner from morning till night, when, perhaps, for several days before and after, not one is to be noticed. A damp, cloudy day, especially if also warm, seems to call them most to this employment, during which they appear actuated by some feeling or excitement which it is difficult to explain. It is surely something more than an instance of their "caprice in fixing on a nesting place," (alluded to by White,) which induces them to "begin many edifices, and leave them unfinished." In the present instance I suspect they may be the first broods but lately fledged, whose instinct begins to operate and show itself in this manner before it is wanted. We see something analogous to this in the behaviour of caged birds, who seem to experience a pleasurable sensation in carrying about in their bills, at the proper season for building, any little pieces of thread, straw, or other materials which happen to be within their reach, even when they have no mate, and no convenience for making a regular nest. This is evidently an instinctive action, increased, perhaps, by high and stimulating food. — *Jenyns' Observ. in Nat. Hist.*

For the Farmers' Cabinet.

Fossil Corn.

To the Editor,—Morris Longstreth having incidentally called up the subject of "fossil corn" in his Agricultural Address, published in the last Cabinet, (see page 223), without helping his readers out of what many of them have felt to be somewhat of a geological dilemma, I must ask the privilege to do so.

Those who possess the second volume of the Farmers' Cabinet will find a notice of the same *fossil corn* at page 139. As many of the present readers of that useful paper do not find access to the early volumes of the work, I will quote a short passage therefrom.

"In the 2nd part of the first volume of the Transactions of the Geological Society of Pennsylvania, page 145, is a letter from J. C. Johnson, M. D., of Louisville, Kentucky, to R. Harlan, M. D., of Philadelphia, dated the 6th of July, wherein the writer says:—'I send you by Mr. Frazer, the fossilized corn, of which I spoke when I first saw you. It is found in the alluvial bank of the Ohio river, about twenty miles below Wheeling, both above and below the mouth of Fish Creek, and extending up the creek some distance, and four or five miles on the Ohio; it may extend farther, but shows itself only that distance by the washing of the river against the bank.'

"The stratum is generally from eight to ten inches thick, and from five to six feet below the surface, and contains nothing but the *corn* grains closely impacted together with the black dust, which you perceive

among the corn, has ever been found with the grains. The same stratum has been met with in places distant from this in digging below the surface. This is all that I could learn relative to this interesting and unaccountable disposition. Why, or how did it get from the cob?

"It certainly must have been charred, or it would not have been thus preserved. It could not have been reduced to this black cinder, like the loaves of bread and grains of different kinds found at Pompeii; or rather it could not have resulted from a like cause. I do believe, that if all the corn raised on the Ohio, and all its tributaries, above this point was collected in one mass, it would not amount to one-tenth of this deposition."

It would seem that there is a little "poetry" in some of the foregoing statements; and I am not aware that the public has ever been undeceived by any correction of the accounts first published. With this view I am induced to send for publication the following extract from a letter which I received from a friend residing not very distant from the spot, in reply to some inquiries which I had addressed to him in relation to the *fossil corn.*

"I had not before heard of Dr. Johnson's 'fossil formation' on the Ohio River. In 11th month, 1839, I repaired to the spot, but found no other curiosity than an old battle-ground. In several places, extending from Grave Creek to some distance below Fish Creek, about ten or twelve miles, magazines of corn have been burned, and the freshets in the river overflowing the banks, have washed it along and covered it at different depths from six inches to two feet or more. It was once very plenty, but is now only to be found thinly scattered in the alluvion—the earth where it is found generally having the appearance of having been burned, as it also has in some places where the corn is not found. Fish Creek is about two miles below Baker's Station, one of the oldest military posts on the Ohio River. Whether the corn belonged to the whites or Indians we cannot now conjecture, there being no other vestige of Baker's Station left, except the grave yard. Below the creek people have dug and ploughed up many pieces of gun-barrels, gun-locks, iron axes without any steel on them, &c. It is well known that they are not of older date than the emigration of the white people to the banks of the Ohio, for the Indians never wrought iron into any kind of tool. This I feel confident in asserting as far as relates to those of the great valley of the Mississippi, having in my younger days been among five or six nations or tribes of them." Respectfully,

E. MICHENER.

Sylvania, 3rd month, 1847.

LAMBS BORN DEAD.—"A YOUNG FARMER," of Genesee, informs us that he had in the winter of 1845—6, 200 ewes, which had been selected for the purpose of raising lambs. "About the 20th of March," he says, "they commenced dropping their lambs perfectly dead, it being one month before their time. They continued in this manner until the 20th of April, the proper time for the lambs, when I found that I had lost 100. All that came after that time were alive and apparently healthy. The sheep were fed nothing but *plenty* of good hay, and were well littered with wheat straw the fore part of the winter, and oat straw the latter part." Can any one give the reason for the abortion?—*Cultivator.*

Dried Strawberries.

Last summer, by way of experiment, when strawberries were plentiful, I attached threads to their stalks, and hung up a few which were over-ripe, to dry. I placed them inside a window facing the south, where they remained from June last to the present time, (March 23.) They have just been tasted, and the result is most satisfactory. That sweet refreshing acid which is peculiar to the strawberry in full perfection, the flavour of the fruit without any watery taste, is delicious; it dissolves in the mouth as slowly as a lozenge, and it is infinitely superior to the raisin, which so soon brings on a feeling of satiety. The strawberry thus dried is a stomachic. The experiment may be tried when the fruit is so ripe as to be scarcely worth gathering, without any further expense or trouble than being hung up.—*London Paper.*

From the Ohio Cultivator.

A LOT OF LARGE HOGS.—I had raised and fatted the past season on my farm, (by Nehemiah Gaskill,) a lot of 22 hogs, the weight of which we deem somewhat extraordinary. They were a cross of the Berkshire and Russia breeds; were slaughtered when only 19 months old, by Mr. Bimm, of Dayton, and the following is the record of the weight of each; 528, 521, 514, 506, 505, 504, 486, 478, 420, 446, 455, 430, 457, 415, 468, 480, 457, 430, 447, 432, 408, 435—total, 10,222.

If any of your subscribers have beaten us raising pork, we should like to hear from them.

RICHARD HAINES.

Centreville, Montgomery co., March 10, 1847.

A drop or two of honey well rubbed on the hands while wet, after washing with soap, prevents chapping, and removes the roughness of the skin; it is particularly pleasant for children's hands and faces in cold weather.

How to Raise the best Gooseberries.

Sir—I hear almost every body complain of the difficulty of raising fine gooseberries. The bushes, to be sure, grow easily enough. It is not difficult to get from the nurseries the prime English sorts—sorts with large and high flavoured fruit, really worth growing. But there seems to be something wrong in our warm and dry climate, that is utter ruin to the fruit. A sort of *scurf* or *mildew* settles on the berries as soon as they are about a quarter grown, and destroys the whole crop. Once attacked by this pest, the berries are past cure, and quite worthless.

Now I have been very lucky in my gooseberry growing, and it has struck me that a few words about my way of doing the thing might help some unfortunate being, fond of gooseberries, but who does not know how to raise them.

I plant my gooseberry trees in a long border on the north side of a paling fence. Before planting them, I trench the border two feet deep, as I know that the roots of the gooseberry love plenty of moisture all summer, which they can never get in the soil, unless it is made deeper than common, by trenching it well. For manure, I give it a heavy dressing of common stable manure, when the trenching is going forward.

I then put out my gooseberry plants early in the spring, or early in the fall, as may be most convenient to me. I have not found that the season makes much difference. I plant them about four feet apart every way, and always keep them trimmed to clean single stems like small trees.

There are hundreds of sorts of "prize gooseberries" raised in Lancashire, but they are not all suited to this climate. I have tried a great many, and have settled down upon *two*, which, taking all in all, I think not surpassed by any others for this climate. These are the *Crown Bob*, a grand old red gooseberry of excellent size, always bears good crops and possesses a high flavour; and the *White Smith*, quite as good among the whites, as Crown Bob is among the reds. There are no doubt many others, very good ones, in the catalogues, but there are none better, and as there is not much variety in gooseberry flavour, I am quite content with these two prime sorts, that will satisfy any body, however fastidious.

I prune my gooseberries among the very first bits of garden work done in the opening of spring. I usually cut out about one-third of the wood made the previous summer. As soon after that as the ground is in working order, I give the border where they grow the dressing for the season, after this fashion. I first provide myself with a couple of barrels of *soot*, as this is my favourite manure for this shrub. It is easily enough collected during the winter, with the help of a chimney-sweeper in my neighbourhood, and I suppose every housekeeper might save enough for the gooseberries in his own garden, if he is not so large a gooseberry grower as myself, out of the sweepings of the chimneys and stove pipes about his own premises.

The gooseberry border is first nicely dug over. I then scatter a light dressing of the soot over the whole surface, and under the bushes, at the rate of a quart to each gooseberry bush. This gives them plenty of stimulus for the season's growth, for soot is a very powerful manure, and no plant likes richer soil than the gooseberry.

Next comes my remedy against the mildew. This is neither more nor less than *salt hay* (i. e. hay from the salt marshes.)* As soon as I have made the top dressing of soot, I cover *the whole surface* of my gooseberry border with salt hay to the depth of three inches. This keeps the soil always moist and cool, not merely by covering the ground with the hay so that it shall not be made dry by the sun, but because the salt in the hay always attracts moisture from the air, and gives it out to the bushes. This prevents the sudden changes from hot to dry, which always almost immediately cause mildew. I have tried it now six years, and have never had a blighted berry from the first, though in the same soil, and with these very sorts, I had bother enough with this troublesome thing before.

My crops are regular and large. They may not equal the prize sorts of the Lancashire weavers, who put a saucer of water under their show berries to make great dropsical monsters of them, but I will answer for it, they are higher flavoured.—*Downing's Horticulturist.*

Horse Market in Dumfries.

The number of animals offered on Tuesday was below an average; but the quality in general was good; the greater part being in the hands of dealers, who for some time past, have been through the surrounding districts, picking up whatever they could find, whether to supply our railways, or an impression that our rural labour is rather behind. The demand was remarkably brisk, and sales were easily made at prices perhaps higher than were ever before obtained in our market; good draught colts from 4 to 6 years old, may be quoted generally from about £45

* We suppose in districts of country where salt hay is not produced, a substitute might be found in any coarse common hay soaked in brine.

to £55, and in several instances, £60, or perhaps fully £60 was obtained. Good mares were also much in demand, and can scarcely be quoted lower, according to quality, than the best order of colts. Young colts and mares rising from 2 to 3 years, were equally in demand and brought from £30 to £40; roadsters and harness horses were not numerously offered, but were high in proportion; few ponies were offered; on Wednesday the features of the market were not materially different from those of Tuesday. The show was again rather below an average, but the demand was fully as good, and prices perhaps a shade higher. Secondary animals were according to quality high in price. As one feature we may notice, that Mr. Cumming, a dealer from Glasgow, had fully 100 animals, purchased recently either in the surrounding districts, or picked up in our market on Tuesday, which may be estimated, taking one with another, at no less than £50. Out of that stock he made a number of sales to railway contractors and others.—*Kelso Mail.*

The Dix Pear.—A Profitable Tree.

A neighbour of ours, who resides but a few rods from us, and in whose garden stands the Dix pear, has recently harvested the crop. After the high winds of autumn, and more particularly the gale of the 13th of September, he gathered, about the first of November, *two barrels of pears.* These were intended for his own use; but a dealer, who had seen the pears upon the tree, and knew something of their value, made him the tempting offer of *fourteen dollars* for one barrel. Having so large a quantity, he reluctantly consented to let them go. Some weeks subsequent to this, in conversation with the person who purchased them, he inquired how much he gained by his purchase; he stated that he had sold *twenty-five dozen* at *five shillings* per dozen, and *eight dozen* at about *seventy-five cents* per dozen, the latter being of the smallest size, the barrel netting upwards of *twenty three dollars*; the whole having been sold to retail dealears in Boston, *to sell again.* Thus the *two* barrels, had they both been sold, would have brought the very great sum of $46. The tree was not so full, nor the pears so large and handsome, as in 1845, when our drawing was made. It will be difficult to find a more profitable tree.—*Mag. of Horticulture.*

Greasing Carriage Wheels.—The best composition that can be prepared, to relieve carriage wheels and machinery from friction, is composed of hog's lard, wheat flour, and black lead (plumbago.) The lard is to be melted over a gentle fire, and the other ingredients—equal weight—may be added, till the composition is brought to a consistency of common paste, without raising the heat near the boiling point. One trial of this paste will satisfy any one of its superior utility.—*Exchange paper.*

The Duke of Devonshire's Conservatory.

Of this grand conservatory no better idea can be given than by telling you that it is a glass structure which covers an acre of ground—and that the carriage road is continued directly through it, so that the duke and his guests can drive through with a coach and four! The whole building is heated by hot water, the pipes to convey which measure miles.—The temperature of various climates is imitated, and the collection of trees and plants embraces all that is fairest and loveliest in the vegetable world. Here is a whole avenue of bananas and plantains, lining one of the grand walks, and among them the *Musa Caveneisoii*, full of flowers, and laden with heavy masses of fruit. There, in an appropriate climate, is a charming grove of oranges and lemons. In an *aquarium* or pond of water are the lilies, and other aquatic plants of the tropics. And near by is a wild mass of rock work, of Derbyshire spar—looking like a rich bank by a forest stream, where rare exotic ferns, lichens and air plants enjoy something as near as possible to their natural homes.

Over this hill of rock work, is conducted a flight of steps; this leads you to a light gallery carried quite around the conservatory, whence, as you imagine, the eye of the spectator revels in the strangeness and novelty of the masses of oriental vegetation, not plants half starved and dwarfed in pots, but trees nearly full grown, and luxuriant with their roots in the warm soil—palms, dates, and bananas, developing almost all their native grandeur and oriental wildness!

Downing says the Plum is naturally a marine tree, and it is surprising how much salt it will assimilate and thrive upon. We have, ourselves, given a single large tree a half bushel of salt in a season, applied to the surface of the ground in the spring, over an area as wide as the extent of the branches. The tree was in a sickly and enfeebled state, and it had the effect of restoring it to a healthy and luxuriant condition. But we consider this an extreme case, and should not recommend the abundant use of salt every year.

Growing Roses from Seed.

To the amateur this opens a field of very interesting amusement; it gives an object with which to fill up profitably every leisure moment, in impregnating, saving the seed, sowing and watching every movement of the plant till it develops its beauties of inflorescence, which, if it prove of new character, is an ample compensation for the time spent upon the process; if not worthy, it is at least a good stock to be used in budding or grafting upon, and even then causes no loss. In the centre of many roses there is a number of thready filaments surmounted by what botanists term anthers; these are small oval forms which, when ripe, contain a quantity of pollen or yellow dust, which can easily be perceived between the finger and the thumb after giving them a gentle pressure. This pollen, though to the naked eye a fine powder, and light enough to be wafted along by the air, is very curiously formed, and varies very much in different plants. Under the microscope each grain of it in the rose is a membranous round bag, which remains entire, and can be kept dry and perfect for days and weeks. On its application to the moist tip of the pistil—which in the rose is a stiff protuberance in the very centre of the flower—it bursts with great force. When flowers are designed to be operated upon, the one intended to produce the seed should be deprived of its anthers early in the morning, which can readily be done with a pair of fine scissors; then during the day, or within two days, take a fine camel hair pencil, and obtain, about noon, the pollen or dust from the plant or plants with which you intend to make the cross, and apply this dust to the pistil of the roses from which you have previously extracted the anthers. It will require some practice before proficiency can be attained in the operation, but a little attention will insure some success. The organs are fit for the operation when the pistil has a glutinous appearance on its summit, and the pollen is dry and powdery. The flowers may be one or two days old; rain is fatal to the operation—dry weather, therefore, must be chosen. Patience and assiduity can accomplish wonders in this department of rose culture; the persevering efforts of the French cultivators have been so very successful within the last ten years, that we do not at all despair of seeing a yellow Moss, a yellow Provins Rose, or even striped roses, combining every shade from white to black, and there is no reason why there should not be produced a perpetual blooming climbing Moss Rose, of any colour at present known in the family of the rose. Ten years ago we had no idea of a Noisette Rose of as fine a yellow as Harrisonii, and as large as Noisette Lamarque; such Chromatella, or the Cloth of Gold, is *said* to be; perhaps ere this work is through the press the plants in my possession will be in bloom, to prove or disprove the assertion.

The seeds will be ripe about the first of November, and can be retained in the capsule or fruit till the time of sowing, taking the precaution to bury them in sand, where they will be safe from the depredations of mice, who are very fond of them. Early in the spring choose a sheltered spot in the garden, free from the shade or drip of trees; enrich and break up the soil very fine, make the surface quite smooth, take the hips from their winter quarters, break up the fruit, and sow the seeds thinly and evenly on the soil; take the back of the spade, or a board, and press the seed level with the ground, then cover them with about one-fourth to one-half of an inch of sand; if sand cannot be obtained take leaf mould, or soil from the woods, finely sifted, for the purpose; in dry weather give occasional waterings. Many of the seeds will come up the first year, and the balance will make their appearance in the second; the third year they can be transplanted to beds or rows to remain till they bloom, which will generally be the fourth or fifth year. It is truly astonishing to see the variety produced—red and white, rose and pink, may all be seen springing from seeds of the same plant, and from single to the most double; none but such as are of the finest form, very prolific, and possessing a good habit, should be reserved for culture. Our climate is so favourable to the maturing of seed that there is no reason why we should not only equal, but surpass, any European country in the cultivation of this "Queen of Flowers."

The blooming of seedlings can be readily hastened where time and convenience will admit. As soon as the young plants have made three or four leaves, lift them very carefully from the seed-bed with a transplanting trowel, and put them in pots of rich light earth; then place them in the shade and give a gentle watering and sprinkling over the leaves for a few weeks, when they may be planted into the ground to remain. I have in this way grown plants eighteen inches high the first season. They will, by this method, generally bloom the third year. The seeds are covered with a thick tough shell, which, if allowed to get perfectly dry, and kept in that state for a considerable period, will take two years to germinate, and perhaps not grow at all; regular moisture appears to be indispensable for keeping the

shell soft and exciting the embryo plant into growth. The seeds are on this account providentially furnished with a fleshy pericarp (hip) to prevent their becoming too dry for germination, while nearly all other seeds do not germinate well unless dried before sowing.—*Buist's Rose Manual.*

Insanity in the Horse.

THERE is no doubt that the animals which we have subjugated possess many of the same mental faculties as the human being—volition, memory, attachment, gratitude, resentment, fear, and hatred. Who has not witnessed the plain and manifest display of these principles and feelings in our quadruped dependants? The simple possession of these faculties implies that they may be used for purposes good or bad, and that, as in the human being, they may be deranged or destroyed by a multitude of causes which it is not necessary to particularise. In the quadruped as in the biped, the lesion or destruction of a certain part of the brain may draw after it the derangement, or disturbance, or perversion of a certain faculty of the mind. It is only because the mental faculties, and good as well as bad properties of the inferior beings, have been so lately observed and acknowledged, that any doubt on this point can for a moment be entertained. The disordered actions, the fury, the caprices, the vices, and more particularly the frenzy and total abandonment of reason, which are occasionally shown by the brute, are in the highest degree analogous to certain acts of insanity in man. It is merely to complete our subject that they are here introduced.

The reader is indebted to Professor Rodet, of Toulouse, for the anecdotes which follow: A horse, seven years old, was remarkable for an habitual air of stupidity, and a peculiar wandering expression of countenance. When he saw anything that he had not been accustomed to, or heard any sudden or unusual noise, whether it was near or at a distance, or sometimes when his corn was thrown into the manger without the precaution of speaking to him or patting him, he was frightened to an almost incredible degree; he recoiled precipitately, every limb trembled, and he struggled violently to escape. After several useless efforts to get away, he would work himself into the highest degree of rage, so that it was dangerous to approach him. This state of excitement was followed by dreadful convulsions, which did not cease until he had broken his halter, or otherwise detached himself from his trammels. He would then become calm, and suffer himself to be led back to his stall: nor would anything more be seen but an almost continual inquietude, and a wandering and stupid expression of countenance. He had belonged to a brutal soldier, who had beaten him shamefully, and before which time he had been perfectly quiet and tractable.

A Piedmontese officer possessed a beautiful and in other respects serviceable mare, but which one peculiarity rendered exceedingly dangerous—that was a decided aversion to paper, which she recognised the moment she saw it, and even in the dark if two leaves were rubbed together. The effect produced by the sight or sound of it was so prompt and violent, that she several times unhorsed her rider. She had not the slightest fear of objects that would terrify most horses. She regarded not the music of the band, the whistling of the balls, the roaring of the cannon, the fire of the bivouacs, or the glittering of arms. The confusion and noise of an engagement made no impression upon her; the sight of no other white object affected her. No other sound was regarded; but the view or the rustling of paper roused her to madness.

A mare was perfectly manageable and betrayed no antipathy to the human being, nor to other animals, nor to horses, except they were of a light-grey colour; but the moment she saw a grey horse, she rushed towards it, and attacked it with the greatest fury. It was the same at all times, and everywhere. She was all that could be wished on the parade, on the route, in the ranks, in action, and in the stable; but if she once caught a glimpse of a grey or white horse, she rested not until she had thrown her rider or broken her halter, and then she rushed on her imagined foe with the greatest fury. She generally contrived to seize the animal by the head or throat, and held him so fast that she would suffocate him, if he were not promptly released from her bite.

Another mare exhibited no terror except of white inanimate objects, as white mantles or coats, and particularly white plumes. She would fly from them if she could; but if she was unable to accomplish this, she would rush furiously upon them, strike at them with her fore feet, and tear them with her teeth.

These instances are selected from various others, because they approach so nearly to what would be termed insanity in the human being. It is confined to one object,—it is a species of monomania, and as decided insanity as ever the biped discovered. One of these horses, the second, was by long and

kind attention divested of this insane terror, and became perfectly quiet and useful; but the other three bid defiance to all means of cure, and to coercion among the rest. If sufficient attention were paid to the subject, many of the obstinate caprices and inexplicable aversions which we can neither conquer nor change, would be classed under the term insanity. There cannot be a more remarkable analogy than that which sometimes exists between the insanity of man and these singularly capricious fancies in animals. The subject is worthy of attention. Has the principle of hereditary predisposition been applied to any of these anomalies?— *Youatt on the Horse.*

Extensive Iron Railway Bridge and Viaduct.

An iron bridge, in size and magnificence perhaps never before equalled, is about to be erected, with a corresponding viaduct across the Tyne, from Gateshead to Newcastle-upon-Tyne, for the Newcastle and Berwick railway. The iron work contract was let at York; there were a good many tenders, but Messrs. Hawks Crawshay and Sons, of Gateshead, were the successful competitors; Messrs Losh, Wilson and Bell, of the Walker iron works, and Mr. John Abbott & Co., of the Gateshead iron works, will also take part with them in the construction of the work—Messrs. Hawks taking the castings for the approaches, and the other firms the arches for the bridge. The contractors are to make, supply, and erect all the cast and wrought iron and wood work for bridge and approaches, according to the designs, and under the instructions of R. Stephenson, Esq.; it is to consist of six cast iron circular arches, with a curved approach at each end, and will, in fact, be a double bridge; the railroad on the summit, and a carriage road and two foot paths suspended from the arches. The span of the arches will be 125 feet, supported on pillars 21½ feet high, and 14 inches square, and the approaches from both Newcastle and Gateshead will be 251 feet in length, and precisely similar. Two courses of three inch planking will be placed beneath the rails, between which will be a layer of Borrowdale's patent asphalted felt, to render them water proof; and the carriage road beneath will be paved with wood to prevent vibration, and the foot path planked. Every arch will be completely erected on the contractors' premises by itself, when the engineer will inspect and test its strength and fitness. The quantity of iron required will be about 6,000 tons, and the contract is stated to be £120,000. The entire cost, inclusive of lands and buildings, will be £300,000, and it is to be finished, so as to be available for public traffic by the 1st of August, 1848.—*London Mining Journal.*

A Brilliant Whitewash.

Take half a bushel of nice, unslacked lime, slake it with boiling water, covering it during the process to keep in the steam. Strain the liquor through a fine sieve or strainer, and add to it a peck of clean salt, previously dissolved in warm water; three pounds of ground rice, ground to thin paste and stirred and boiled hot; half a pound of powdered Spanish whiting, and a pound of clean glue, which has been previously dissolved by first soaking it well, and then hanging it over a slow fire in a small kettle within a large one, filled with water. Add five gallons of hot water to the whole mixture; stir it well and let it stand a few days covered from the dirt. It should be put on quite hot; for this purpose, it can be kept in a kettle on a portable furnace. It is said that about one pint of this mixture will cover a square yard upon the outside of a house if properly applied. Brushes more or less small may be used according to the neatness of the job required. It retains its brilliancy for many years. There is nothing of the kind that will compare with it either for inside or outside walls.—*Exchange paper.*

To Protect Grain from Rats.—An individual of much practical experience, states that green elder deposited in and about the mows of hay and grain, will prove an effectual preventive against the depredations of mice and rats. These animals are frequently very destructive in their ravages; and if a remedy so simple and easy of attainment is efficacious, it deserves to be known and remembered by all. We have long known that the leaves of the common mullen will drive rats from their haunts. There is something in the odor of this plant that is disgusting to their ratships, as was the leek to the ancient Pistol; they cannot "abide it."

THE FARMERS' CABINET,
AND
AMERICAN HERD-BOOK.

Philadelphia, Fourth Month, 1847.

In a letter from Fred. Watts, of Carlisle, dated the 21st ult., he says:—

"In this vicinity the appearance of the wheat crop is very bad. Within my recollection it has never, at this season, been more unpromising. This is attributed to two causes:—the seed sown last fall was unsound; it was injured by the extreme heat which happened after the season of blossoming last year, and much of

it did not grow. The second cause is the very open season which has just passed: the ground has been exposed almost the whole winter to alternate thawing and freezing, to the great injury of the root of the plant. I did not myself sow any of the seed which grew last year, fearful of its defects, and I have great reason to congratulate myself on the appearance of my wheat compared with others, who sowed without the precaution of procuring old seed."

When the season of harvesting is particularly unfavourable, and owing to protracted wet weather, there is a disposition in the wheat or rye to grow, either while standing or in the sheaf, great care is requisite in the selection of seed. The editor had last summer two or three acres of splendid wheat, for which he had anticipated an extra price for seed; when, however, it was closely examined after it was housed, it was discovered that the berry had decidedly swollen before the wheat was cut. Many grains had more or less germinated, and it was of course unfit to be depended upon for seed. Great trouble and loss are sometimes consequent on a lack of care in this matter.

A friend at Easton, Md., makes numerous inquiries in relation to painting buildings, &c., and we would be glad if some of our readers would give an article on the subject.

Painting is a simple operation, except when very nice work is to be performed. Any storekeeper in the country who sells the materials for painting, &c., can give directions for mixing them, and a little practice will render the operation both of mixing and applying the paint, familiar. The editor has more than once painted his residence in the country, inside and out, and did it neatly and well, without difficulty.

At a meeting of the Burlington County Agricultural Society, held at Mount Holly, N. J., on the 13th ult., Dr. Spencer was chosen president, William N. Shinn, Isaac V. Brown, Charles Collins, and Levi Borton, Vice Presidents; Joseph F. Burr, recording secretary, Chalkley Gillingham, corresponding secretary, Charles M. Harker, treasurer, and Samuel A. Dibbins, Charles Haines, John W. Black, George B. Deacon, William Parry, and David B. Cole, executive committee.

At a meeting of the executive committee of the N. Y. State Agricultural Society, on the 4th ult., the secretary reported that in 19 counties of that state, the yield of Indian corn exceeded 80 bushels per acre: in 11 counties, crops were stated to exceed 100 bushels.

The largest yield in Cortland county was 154 bushels; in Oswego, 146; in Orange, 139; in Tioga, 125; and in Oneida, 123 bushels The largest yield of wheat reported, was in Ontario, a fraction short of 60 bushels to the acre, on upwards of two acres.

In eight counties, the yield of oats exceeded 70 bushels per acre: the largest crop was 102 bushels, in Oneida.

A female correspondent of the New York Tribune. thinks that men ought to do the family washing, because they are stronger than women.

Our friend C. M. Hovey, editor of the Magazine of Horticulture, has issued proposals for the publication in numbers every alternate month, of a splendid new work on Fruit, entitled The Fruits of America, containing richly coloured engravings, accompanied with the wood and foliage of all the choicest fruits cultivated in the United States; from paintings from nature, made expressly for this work, by W. Sharp. It will appear in royal octavo numbers, uniform with Audubon's Birds of America, and will contain four plates each, with eight pages of letter press, on the finest paper and beautiful type. In this style the numbers will come at $1 each: or in imperial quarto very highly finished, $2 a number.

P. Chisholm, Secretary of the Beaufort Agricultural Society, in a letter to the Horticultural Magazine, Boston, says the cultivation of fruit, especially peaches and pears, is rapidly extending in South Carolina. He is doubtful of success in apples, plums and cherries; and means to graft and bud his apples mainly upon the native crab, and upon other native or acclimated stocks. He thinks that when they get under way, the north will get its best peaches and late pears from the south, and the south its best apples, plums, and early pears from the north.

We have received from the publisher, George S. Appleton, No. 148 Chesnut street, a neat pamphlet by William Miles, *on the Horse's Foot, and how to keep it sound*, with numerous illustrations, calculated to make the matter familiar to every one. The author has written for the information of the uninformed, and we are willing to acquiesce in the sentiment of one better able to judge than ourselves, that this little book should be in the hands of every person who owns a horse. The foot is a very tender part, and should be sedulously, and understandingly watched.

The quantity of rain which fell in the 3rd month, 1847, was nearly four inches and three-quarters.

4.70 in.

Penn. Hospital, 4th mo. 1st.

☞ SHORT ADVERTISEMENTS,

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line. Payment in advance.

Agency for the Purchase & Sale of

IMPROVED BREEDS OF CATTLE & SHEEP.

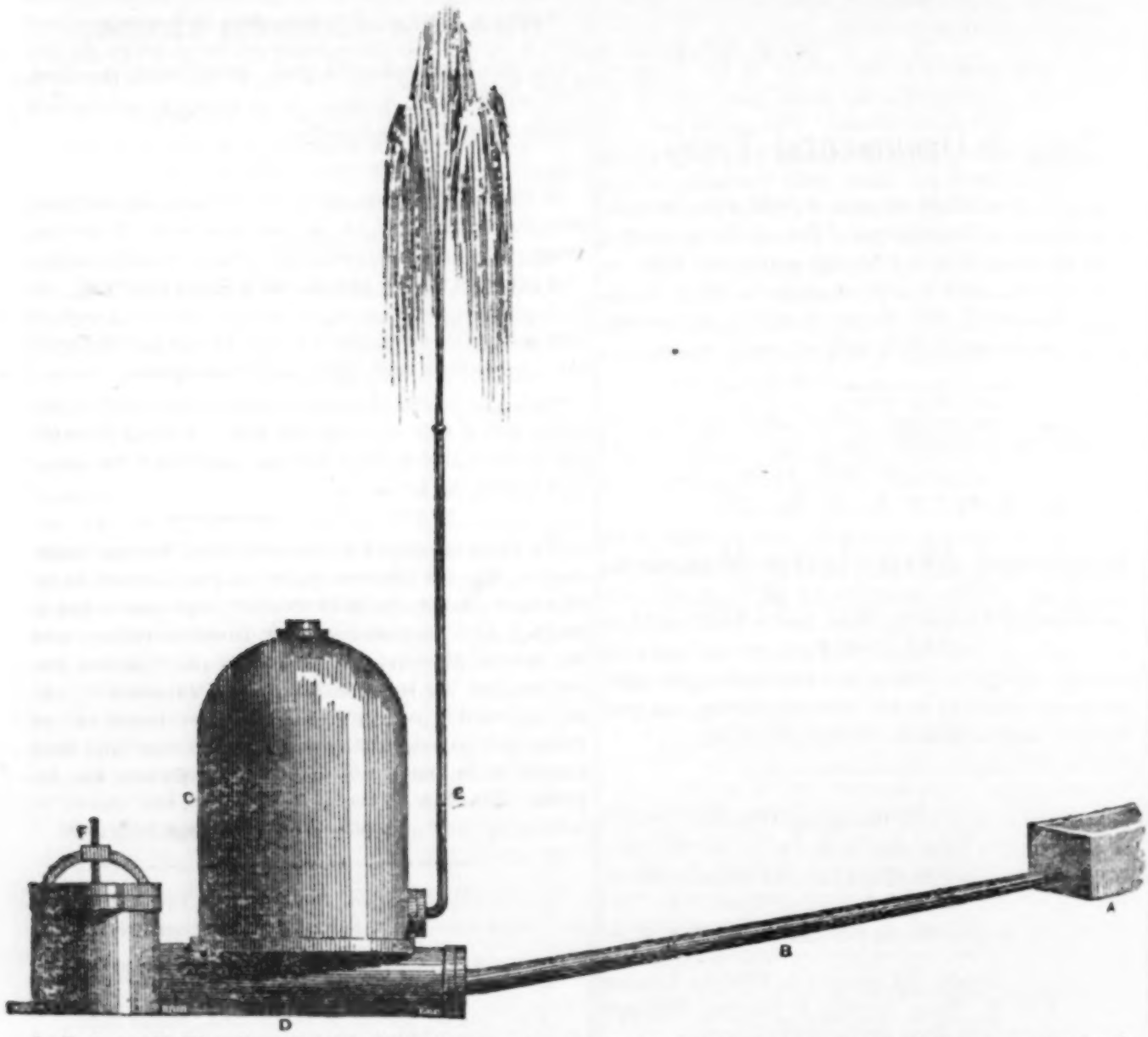
The subscriber takes this method of informing his friends and the public, that he will attend to the purchase and sale of the improved breeds of cattle, sheep, swine, poultry, &c., for a reasonable commission. All letters post paid, addressed to him at Philadelphia, will be attended to without delay.

AARON CLEMENT.

Sept. 15th, 1846.

MONTGOLFIER'S
HYDRAULIC RAM,

A simple and effective Machine for forcing a portion of any Brook or Spring over any required distance and elevation, where a proportionate fall can be obtained.



A. Spring. B. Pipe from Spring to Machine. C. D. F. Machine. E. Pipe conveying Water from Machine to place required.

IT IS USED,

For supplying Farm-houses, Factories, Villages, Rail Road Stations, &c.,

WITH RUNNING WATER.

The simplicity of the operation of this Machine, proves at once its Effectiveness; as also the simplicity of the Machine itself shows its durability, as well as the very small amount of attention and repairs it will require.

The Subscriber is prepared to make and put up *Rams* of all sizes and kinds,—*which he will warrant in every respect*—with the accompanying Pipe, Reservoirs, Baths, Water Closets, Fountains, &c., &c., when required.

Persons wishing Rams sent to them, by measuring the amount of water their brook, or spring affords per minute, the head or fall, they can procure, the elevation to be overcome, and distance to be conveyed; can have the proper Ram and Pipe sent them with Directions for putting it up. If the supply be unlimited, the amount of water required should be stated. Rams may be had at the shop from $15 upwards, with directions to put them up.

The expense of a Ram and necessary Pipe is so small as to be within the reach of every one; in most cases being less than that of a Well and Pump. *Manufactured and for sale by*

HENRY P. M BIRKINBINE,
Central Block, Broad street, between Race and Cherry, Phil'a.

SEED STORE,

No. 23 Market Street, Philadelphia.

The subscriber keeps constantly a supply of White and Red Clover, and other grass seeds; fresh Perennial Rye-grass, and Lucerne seed. Field seeds, consisting of choice Spring Wheat, Barley, Potatoe Oats, Northern and other seed-corn. Also, in season, Fruit and Shade Trees. Garden and Bird seeds generally. Guano in parcels to suit purchasers.

M. S. POWELL.

Philad., Feb., 1847. tf.

Fruit & Ornamental Trees.

The subscriber offers for sale an extensive assortment of Fruit & Ornamental Trees of the most approved varieties, of fine size and warranted true to their respective names. Orders may be left with J. Tatum, No. 50, N. Fourth street, where catalogues may be obtained or E. P. Middleton, No. 9 Market st.

EZRA STOKES,

Mt. Laurel, near Moorestown, Burlington co., N. J.

Second month 15*th*, 1847.

R. SINCLAIR & CO.

Plough and Agricultural Machine

MANUFACTURERS & SEEDSMEN,

BALTIMORE:

Have for sale the Maryland Self-Sharpening Plough, several sizes, warranted the most durable and simple Sub-soil Plough in this country; also Corn and Cob Crushers, Cylindrical Straw and Corn stalk Cutters, Burr Stone Mills, Corn Shellers, for hand and horse power, Horse Powers and Threshing Machines, Fanning Mills, with a numerous assortment of Ploughs, Drill Machines, Harrows, Farming and Garden Tools, Seeds, &c.

☞ See Catalogues for particulars, to be had of us gratis.

Balt. March 15, 1847.—2 times.

FOR SALE,

AT D. O. PROUTY'S

AGRICULTURAL WAREHOUSE,

No. 194½ *Market Street, Philadelphia,*

Corn-Shellers in great variety, price from $1 50 to $50 each; Hovey's Patent Hay, Straw, and Corn-stalk Cutters; Grant's Patent Fan Mills, for chaffing and screening wheat at one operation, warranted to take out cockle, cheat and smut. Also good Fans, for $14 to $18 each.

Whitman's Horse-powers and Threshing Machines, with Straw Carriers and Fan Mills attached; Spain's Improved Barrel Churns, the dashers of which may be taken out to clean. Cheese-presses, &c.; Centre-Draught, Self-sharpening, Right & Left-hand Ploughs, warranted to give satisfaction in their operation.

September 15*th*—tf.

COATES' SEED STORE,

No. 49 *Market Street,*

FRESH TIMOTHY SEED,

Of various qualities, from good common seed to the purest and finest that can be produced,

TOGETHER WITH A COMPLETE ASSORTMENT OF

GRASS & GARDEN SEEDS,

Of the finest Quality and best Varieties,—Bird Seeds, &c.

JOS. P. H. COATES.

Successor to George M. Coates.

Sept. 15th, 1846.

PHILADELPHIA

AGRICULTURAL WAREHOUSE,

No. 291 *Market Street, North side, between Seventh and Eighth Streets, Philadelphia.*

The subscriber has just received from Worcester, Massachusetts, an assortment of Ruggles, Nourse and Mason's improved Eagle, Subsoil and other Ploughs, which have been so much approved by the principal Agricultural Societies in New England the several last years; also Bennett's Cultivators and Stevens' Self-Feeding Hay and Straw Cutter, a late and very valuable improvement in that kind of implement; Grain Cradles, &c.; an assortment of Ruggles, Nourse and Mason's Self-Sharpening Ploughs of the form and model of those above named, are daily expected. T. F. has and will constantly keep a large assortment of Farming Implements, as Fan Mills, Straw and Hay Cutters, Corn Shellers, Grain Cradles, Scythes, &c., together with Garden Tools of all kinds.

THOMAS FURBER.

May 15th, 1846. 1 yr.

NEW

Horticultural and Agricultural Ware-house,

84 *Chesnut Street below Third, South side.*

The subscriber has for the better accommodation of his customers, opened the above ware-house, with a large stock of Garden and Field Seeds, crop of 1845. Implements and Books on Gardening and Farming; he calls the particular attention of farmers to his pure stock of Sweede Turnips, Field Carrots, Beets and Parsnips, Pruning Shears, Saws and Knives.

March 14th, 1846.—1y. R. BUIST.

COAL.

The subscriber has made an arrangement for a constant supply of superior Lehigh and Schuylkill Coal—carefully prepared for family use, which he will furnish *at the usual cash prices*, on application at the office of the Farmers' Cabinet, where samples of the different kinds and sizes may be seen.

JOSIAH TATUM.

Philadelphia, Third month 15*th*, 1847

We keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	$3 50
YOUATT ON THE HORSE, with J. S. Skinner's very valuable Additions;	2 00
BRIDGEMAN'S GARDENER'S ASSISTANT;	2 00
THE AMERICAN POULTRY BOOK;	37½
THE FARMER'S LAND MEASURER;	37½
DANA'S MUCK MANUAL;	50
Complete sets of the FARMERS' CABINET, half-bound, 10 vols.	8 50
DOWNING'S Landscape Gardening,	3 50
Downing's Fruits and Fruit Trees of America,	1 50
SKINNER'S Every Man his own Farrier,	50
AMERICAN Poulterer's Companion,	1 25
BOUSSINGAULT'S RURAL ECONOMY,	1 50
FARMERS' & EMIGRANTS' HAND-BOOK,	1 00
MORRELL'S AMERICAN SHEPHERD,	1 00
STABLE ECONOMY,	1 00
BEVAN on the HONEY BEE,	31¼
BUISTS' ROSE MANUAL,	75
THOMAS' FRUIT CULTURIST.	50
SKINNER'S CATTLE & SHEEP DOCTOR,	50
AMERICAN FARRIER,	50
THE FARMER'S MINE,	75
HOARE ON THE VINE,	62½
HANNAM'S Economy of Waste Manures,	25
LIEBIG'S AGRICULTURAL CHEMISTRY,	25
" ANIMAL CHEMISTRY,	25
" FAMILIAR LETTERS,	12½

As well as his larger works on Chemistry and Agriculture.

Subscriptions received for Colman's Agricultural Tour—or single numbers sold.

☞ We are prepared to bind books to order.

AFRICAN GUANO.

First quality African Guano, from the island of Ichaboe, warranted genuine. Also a few tons Peruvian.

For sale by J. B. A. & S. ALLEN,
No. 7 South Wharves, 2nd Oil Store below Market street.

Philadelphia, March 17th, 1847.

Poudrette.

A valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the Farmers' Cabinet, No. 50, North Fourth Street, or at the manufactory, near the Penitentiary on Coates' street. Present price, for seven barrels or more, $1 87½ per barrel, containing four bushels each. Any number of barrels less than seven, $2 each, or 37½ cents a bushel. Orders from a distance, enclosing the cash, with cost of porterage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. The results on corn and wheat have been generally very satisfactory. Farmers to the south and in the interior, both of this State and of New Jersey, are invited to try it. We are now able to supply the demand for corn.

JOSIAH TATUM.

CONTENTS OF THIS NUMBER.

	Page
Sheep, Mountain Lands, &c., in Virginia,	265
Potatoe Disease,	266, 273
Anecdote of the Horse.—American Institute,	268
Vinegar,	270
Soap as a Manure.—Farm Accounts.—Sweet Potatoes,	271
Woman's cares at home,	272
Agricultural Colleges,	274
Lime on corn.—Age of plants.—California farmer,	275
Annual Exhibition—Premiums, New York,	276
History of Short Horns in America,	278
Shade and Fruit Trees, Insects, &c.,	281
Hydraulic Ram, its history,	282
Bread stuffs,	283
Propagating the Vine,	284
Horse power.—Habits of Swallows.—Fossil Corn,	286
Dried Strawberries.—Large Hogs,	287
To raise the best Gooseberries.—Horse Market in Dumfries,	288
Dix Pear.—Greasing Carriage-wheels.—Duke of Devonshire's Conservatory,	289
Growing Roses from Seed,	290
Insanity in the Horse,	291
Iron Railway Bridge.—A Brilliant Whitewash.—Editorial Notices,	292

THE FARMERS' CABINET,

IS PUBLISHED MONTHLY BY

JOSIAH TATUM No. 50 NORTH FOURTH STREET, PHILADELPHIA.

It is issued on the fifteenth of every month, in numbers of 32 octavo pages each. The subjects will be illustrated by engravings, when they can be appropriately introduced.

Terms.—One dollar per annum, or five dollars for seven copies—*payable in advance.*

All subscriptions must commence at the *beginning* of a volume. Having lately struck off a new edition of one or two of the former numbers, which had become exhausted, we are now able to supply, to a limited extent, any of the back volumes. They may be had at one dollar each, in numbers, or one dollar twenty-five cents half-bound and lettered.

For seven dollars paid in advance, a *complete set* of the work will be furnished in numbers, including the 11th volume. The whole can thus readily be forwarded by mail. For twenty-five cents additional, per volume, the work may be obtained neatly *half-bound and lettered.* Copies returned to the office of publication, will also be bound upon the same terms.

By the decision of the Post Master General, the "Cabinet," is subject only to newspaper postage. To any Post office within thirty miles of Philadelphia, they will go free of charge.

Joseph Rakestraw, Printer.